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SCHOOL GEOGRAPHY

OF

THE WORLD.

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BY

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PREFACE.

THE Author would lay this book before the Teachers of Nova Scotia as a humble tribute to the cause of Public Education. Whilst the work may not claim acceptance for the revelation of new facts or principles in geographical science, it is believed that a careful examination of its features will discover special adaptation to our wants in the school-room. In this place it may be well to call attention to its leading characteristics. The general plan implies four distinct and consecutive stages.

First Stage—A COURSE OF ORAL LESSONS.—The "Hints" in this department are given as an aid to the Teacher—not to be studied by the Pupil. They embrace the following topics:—

1. Points of the Compass; 2. Train to Observe and Describe; 3. Mapping; 4. Train to Judge Distances; 5. Relative Position and Distance; 6. Maps on a Scale; 7. The Play Ground; 8. Land Surface in the School Section; 9. Water-sheds; 10. Advantages of Mountains; 11. Streams; 12. Benefits of Streams; 13. Lakes; 14. Climate; 15. A Physical Map; 16. Minerals, Plants, and Animals of the School Section; 17. Inhabitants; 18. Pursuits; 19. Education; 20. Civil Divisions; 21. The County; 22. Nova Scotia; 23. The World; 24. Land and Water; 25. Voyages; 26. The Earth a Globe—Its Motions; 27. Circles.

It is the aim, by this course, to exercise the Pupil's observing powers, and, by showing him the nature of geographical knowledge, to lay a foundation for the succeeding stages. From considerable experience and observation, the Author is persuaded that Oral Lessons,

similar to those suggested, form the true and only really successful introduction to the study of Geography.

Second Stage.—This consists, first, of LESSONS ON NOVA SCOTIA; and, second, of a GENERAL VIEW OF THE WORLD, presented by an imaginary tour. It is intended to be an easy transition from oral lessons to the formal study of the text-book. Objects familiar to the child, and knowledge already possessed, are used as stepping-stones in the pursuit of new knowledge. It has been the special aim to make this part not only instructive, but simple, familiar, and interesting.

Third Stage.—In order that the Pupil may, with the highest advantage, prosecute the study of Descriptive Geography, he should have some knowledge of the Earth's planetary relations and of the general principles of Physical Geography. The two chapters "THE EARTH AS A PLANET" and "PHYSICAL GEOGRAPHY" are therefore placed at the beginning of the more systematic part of the book.

Under "THE EARTH AS A PLANET" the following topics are discussed:—

FORM of the Earth; SIZE of the Earth; LIGHT and HEAT; DAY and NIGHT; Unequal LENGTH OF DAY; Change of SEASONS; Cause of the Earth's ANNUAL MOTION; CIRCLES; ZONES; LATITUDE; MEASUREMENT of the Earth; LONGITUDE; Outline of the SOLAR SYSTEM; the EARTH A HEAVENLY BODY; PLANETS; MOONS; FIXED STARS; the Terrestrial GLOBE.

"PHYSICAL GEOGRAPHY" embraces the following:—

The Earth's CRUST—the INTERIOR; the TERRAQUEOUS GLOBE—LAND, *Continents, Islands, Surface, Rivers,*

Lakes—the SEA, its Extent, Depth, Contents, Temperature, Divisions, Motions, Waves, Tides, Currents—the ATMOSPHERE, its Extent, Composition, Properties, Reflection, Refraction, Temperature, Vapour, Winds, Rain, Climate; PLANTS, ANIMALS, MAN.

In these departments it has been the aim to proceed from known phenomena to principles, showing the dependence by familiar illustrations. The paragraph a small type, embracing the more difficult parts, can be omitted by beginners, at the discretion of the Teacher. In order to secure the highest practical benefit, frequent reference is made, in the succeeding chapters, to the principles of Physical Geography.

Fourth Stage.—This embraces NORTH AMERICA, SOUTH AMERICA, EUROPE, ASIA, AFRICA, and OCEANIA. An outline of each great division is given before the countries included in it are discussed. By this comprehensive view the relation of the different parts is more clearly apprehended, the Pupil conceiving of them not as isolated countries, but as forming one grand whole. Common features, also, are thus learned once for all.

Particular attention is invited to the UNIFORM ARRANGEMENT OF TOPICS, both in the outlines and in the more detailed description of the different countries. Everything in this part of the work is included under the following eighteen headings:—

I. HISTORY.	X. CLIMATE.
II. POSITION.	XI. MINERALS.
III. FORM.	XII. PLANTS.
IV. COAST.	XIII. ANIMALS.
V. AREA.	XIV. INHABITANTS.
VI. SURFACE.	XV. DIVISIONS.
VII. RIVERS.	XVI. TOWNS.
VIII. LAKES.	XVII. INDUSTRIES.
IX. SOIL.	XVIII. GOVERNMENT.

These headings will prove of great service to the Pupil in preparing his lessons, and to the Teacher in conducting the recitation. They will be found pretty exhaustive in the matter of Descriptive Geography, and will furnish central points around which more extended knowledge, derived from books or travel, will cluster. A consecutive

order has been sought after, so that each topic might naturally arise out of the preceding—or at least that there should be no inversion of the true relation. With certain causal facts obtained as data, the learner largely anticipates those that are dependent. Thus the reasoning powers being called into action, the study of Geography becomes a higher exercise than a mere memorizing of isolated facts. A systematic and uniform arrangement will also greatly aid the memory, and will at the same time train to habits of order.

In the different stages the SKETCHING OF MAPS on the slate or on paper is contemplated. This practice should go hand in hand with the study of every country. In no other way can the Pupil acquire so accurate and indelible a mental picture of the leading physical features of a country.

The RELATIVE SIZE OF COUNTRIES as compared with Nova Scotia will tend much to definite knowledge. Areas are also expressed by THE SIDE OF THE SQUARE, as conveying a more definite idea to children than *square miles*.

NUMEROUS REVIEW QUESTIONS are given throughout the work, which will tend to excite interest and elicit thought.

Every endeavour has been made to give the most RECENT CHANGES in the political relations of the various countries of the world, and also the latest results of exploration and travel.

The MAPS have been CONSTRUCTED WITH A VIEW TO CORRECT CONCEPTIONS. Those of the great divisions are coloured, to distinguish highland from lowland. Guyot's maps are taken as authority in this distinction. To CORRECT the FALSE IMPRESSIONS respecting the relative sizes of countries, arising from the use of maps on different scales, THE MAP OF NOVA SCOTIA IS TAKEN AS THE UNIT, by which all the others, drawn according to a specified proportion, are to be measured.

The TYPOGRAPHICAL AND ILLUSTRATIVE ARTS are laid under tribute to embellish and add attractiveness to the work. Variety of type has been employed to catch the

attention and break the monotony so irksome to children; and the preparation of lessons has not been rendered unnecessarily imposing and repulsive by a crowded page. The many excellent Illustrations will have an important bearing, in exciting interest, in giving correct and permanent conceptions, and in the cultivation of refined taste.

The GLOSSARY OF GEOGRAPHICAL TERMS and the PRONOUNCING VOCABULARY are designed for reference. Lippincott and Worcester are followed, chiefly, in the pronunciation.

The Author gladly avails himself of this space to express his obligations.

His Publishers have his best thanks for the cheerful and unsparing efforts with which they have executed, in the highest style of art, their part of the work.

Many valuable suggestions have been received from T. H. Rand, Esq., M.A., Superintendent of Education.

A large number of books have been consulted in the preparation of this work. Much assistance has been de-

rived from Guyot's Geographical Works. Other books from which more or less aid has been obtained are:—

Lippincott's Gazetteer; Milner's Gallery of Geography; Mackay's Geography; Anderson's Geography; Campbell's Geography; Warren's Common School and Physical Geographies; Lovell's Geography; Scottish School Book Association Geography; Gooderich's Geography; Sullivan's Geography; Cartee's Geography; Page's Physical Geography; Fay's Outlines; Sutherland's Geography of P. E. I.; Maury's Physical Geography of the Sea; Baker's Albert Nyanza; Palgrave's Arabia; Agassiz's Brazil; Collier's Histories; Thomson's Land and the Book; and various Reports on Trade and Education.

Some of the Rules and Exercises on the Globe are taken from Tate's Natural Philosophy, which may be consulted for further information on the subject.

JOHN BURGESS CALKIN.

Normal School, Tecumseh, N. S., 1873.

HINTS ON

Nova Scotia
A Guide

Form of
Attraction
Size of the
Light and
Day and
Unequal
Change of
Cause of
Circles,
Zones,
Latitude,
Measurement
Longitude

OUTLINE
The Earth
Planets
Moons,
Fixed Stars
Exercises

THE TERRA
Problems

The Earth
The Interior
The Terra

THE LAND
Continents
Islands,
Mountains
Rivers,
Lakes,

THE SEA,
Extent,
Depth,
Content

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HINTS FOR ORAL LESSONS ON GEOGRAPHY.

THE young student ought not to feel that in the school-room he is isolated from the world outside. The teacher should not carry him, as it were, blindfold and set him down in the very midst of the unknown, where all on this side and on that is unfamiliar and strange, and where he can have no recourse to knowledge already acquired, as a key of interpretation to the new and unsolved. On the contrary, whatever may be the new subject to which we are about to introduce him, we should first ascertain what is his present standing ground, or knowledge, relative to the prospective study; and then conduct him by a path which ascends no abrupt heights, and crosses no wide chasms, but which is so continuous and plain that each succeeding step shows the one which should follow.

These common-sense principles are often violated in commencing the study of geography. Our text-books generally take the child first to the heavens—to things entirely unknown—and end with home and things familiar. It is this that often makes the study so uninteresting and profitless. The child is thrown beyond the range of his mental powers; we try to make him grasp the unknown through his powers of reason and abstraction when he requires to feel his way, leaning on his perceptive powers. We wish to see this gulf bridged over by a system of *oral lessons*, varying with the natural features of the school section and the mental capabilities of the pupil. Were it otherwise practicable, space forbids the writing out or giving a very minute detail of such a system; but it will also be perfectly manifest that the plan which would suit one school might be wholly unadapted to another, and that the ever-varying circumstances of any school require frequent extemporaneous changes in the mode of illustration. We shall not attempt, therefore, what seems impracticable and would be nearly useless if accomplished—to give supposed questions, answers, ellipses, and illustrations; believing that such lessons would, to say the least, want the vital element, *adaptation*. We shall aim to give merely a general outline, as a sort of guide to those teachers who have but little experience, not claiming for it perfection in its arrangement or completeness in its parts.

The teacher should keep two objects steadily in view—the

development of mental power in his pupils, and preparation for the regular study of geography from the text-book. The first of these is the more important; and to secure it, more depends on the *mode* of communicating than upon the *fact* taught. The following Pestalozzian principles will be found to have an important bearing on successful results:—

Train the child to observe for himself, to discover for himself, and to do for himself. Develop the idea, then give the appropriate term; proceed from the known to the unknown—from the particular to the general.

The several divisions are not supposed to constitute single lessons; on the contrary, most of them will be found to contain material sufficient for a number of lessons.

OUTLINE OF A COURSE OF ORAL LESSONS, INTRODUCTORY TO THE FORMAL STUDY OF GEOGRAPHY.

1. **Points of the Compass.**—Explain the cardinal points by reference to the sun at different times of day—at sunrise in the east, at sunset in the west, at noon in the south; the point opposite the south is north. Next take the intermediate points. Let the children give the direction of various objects; as their own homes.

2. **Train to Observe and Describe.**—Place various objects—as a book, ink fountain, and a cup—on the desk. Ask the children to note and describe their relative position. Disarrange the objects, and call upon a pupil to place them as before. The others criticise. Repeat the exercise, increasing the number of objects.

3. **Mapping.**—Review the preceding exercises. Having arranged a number of objects, draw a representation of them upon the black-board, the pupils naming the position for each. Repeat the exercise, increasing the number of objects and varying the arrangement. Give the term *map* as the name of these pictures. Make a new arrangement of a few objects, and after the children have described fully the position of each object, ask them to draw a map upon their slates.

4. **Train to Judge Distances.**—Show the children, by means of a string or stick, an inch, a foot, a yard, and a rod. Exercise them repeatedly in drawing upon the board or floor lines of these various lengths, causing them to test their skill by applying the measure. Vary the exercise by calling upon the children to judge of the length of lines, their own height, the height of doors and windows, the distance between objects not very remote from each other—always applying the measure to test the accuracy of their judgment.

5. **Relative Position and Distance—Boundaries.**—Cause the children to observe the various objects in the school-room; their size, relative position, and distance from each other. Show them that the room is limited and its form determined by the walls. Give the term *boundary*;—the room is bounded by the walls. Call for a description of the room, the objects in it, their position and uses. Direct the children to make a map of the room on their slates.

6. **Maps on a Scale.**—Draw upon the black-board two maps of the school-room, one considerably larger than the other. Show that both are equally correct; that neither is as large as the room; and that it would not be possible to make a map upon the board equal in size to the room. Show the grand point of maintaining a due proportion in the map, corresponding to the relative sizes of the objects. This may be made plain by drawing the picture of a man with the arms extending to the feet. The children, noting the disproportion, will say that the arms are too long. Bring out the idea of relative length, by showing that the arms in the picture are not so long as their own—that they are too long only because they do not correspond with the other parts. Show them that in making maps it is usual to let some definite short length represent a longer one, and that this is called the *scale* of the map; tell them that the upper part of the map generally represents the north. Let them now make a map of the school-room on some given scale.

7. **The Play-Ground.**—Direct the children to examine the play-ground and the objects in it; to judge of size and distance, testing by measurement; to describe the ground, showing first its position with respect to some prominent object—as the brook, river, woods, village, and church; to give the boundaries, north, east, south, and west; to state the size of the ground, its surface, the objects in it, their position, uses, &c. Call upon some one to make a map on the board, according to a given scale. The others criticise. Correct errors, efface the map, and let all draw it upon their slates.

8. **School Section—Land Surface.**—Question the children as to what they have observed respecting the inequalities of the surface of the neighbourhood. Some places are level, like the floor or play-ground; in others the earth rises up in hills. Tell them of level tracts so large that they could not see across them, and give them the term *plain*. Ask if they have seen a very high hill which it would take some time to climb,—what they call such a hill. If there is no mountain near, and they have not seen one, question them respecting the highest hill in the neighbourhood. Some object is six or ten feet high; how many such heights would equal that of the hill. Ten such hills, one upon another, would make a very high hill, which would be called a *mountain*. This would be a low mountain; for far away are mountains twenty or thirty times as high, rising above the clouds. They rise into the cold air so far that their tops are covered with perpetual snow. Tell them that the snow collects in vast masses; and they will see that, as it cannot melt, it must slip down the sides of the mountain, forming an *avalanche*.

9. **Water-shed.**—By reference to some detached hill and lengthened range, show the difference between an isolated mountain and a continuous range or chain. Draw from the children, that when they have reached the top or summit of a range the ground falls off, or slopes in the opposite direction—that it is somewhat like the roof of a house, sloping in two ways; that when it rains, the high ridge along the top will separate the water as it falls, throwing some in one direction and some in the opposite;—that this ridge is called a *water-shed*.

10. **Advantages of Mountains.**—If the ground were all quite level the rain could not run off, and the earth would soon be saturated so that the water could no longer sink in. If the children have seen a swamp, it will furnish a fine illustration. Show what would be the result with respect to the vegetable kingdom—many of the most useful plants could not live; hence food would be wanting to many animals. So much water in the soil would cause disease among men. The children have seen a spring. Show how it is formed, and could not exist if the whole surface were a plain. Other benefits may also be noticed, as shelter against winds, and the comparative ease with which minerals can be obtained from the side of a mountain. Condensation of clouds, and other climatic benefits, will perhaps be too much advanced at this stage.

11. **Streams.**—Take the streams with which the children are most

familiar—the brook where they have been accustomed to fish, or to sail their toy ships. Is the water still? why does it flow? Illustrate by pouring a little water upon the level floor, and then upon the inclined desk. Show that the rapidity of the stream is in proportion to the inclination. Flowing water is called a *stream*—the brook is a stream; very large streams are *rivers*. Does the water flow along the surface? No, but in a groove, the *channel*;—the bottom of the channel is the *bed*; along the sides are the *banks*, the *right* hand and the *left* hand bank. What made the channel? Illustrate by what they have seen along the road after a heavy rain; show how the depth of the channel depends on the velocity of the stream and the softness of the ground—how the stones in the bottom of the brook have been worn smooth. As the children go up the stream, they observe smaller streams flowing into the main stream—giving or contributing their waters; these are *tributaries*. Following up, they finally reach the *brooklet* hastening away from the *spring* which bubbles up on the side of the hill or mountain; this is the *source* of the stream. Now descending the stream, they find it becoming larger as the tributaries flow in, until at length, by the union of many brooks, they have the *river*; and the further the river flows, the more tributaries it will receive and the larger it will become. Where does the river go? If the children have seen the sea this will be readily explained; if not, it will be necessary to give a lesson on the vast body of salt water which covers three-fourths of the Earth, into which the rivers flow. Thus, coming back to their homes, the little brook where they love to sport is hastening away to the ocean; the water which they see in it to-day is not the same which they saw yesterday, and to-morrow it will be gone, and other water will have taken its place. Tell the children of some of the great rivers of the Earth; and, by comparison, give them an idea of their size.

12. **Benefits of Streams.**—Lead the children to see the dependence of springs, brooks, and rivers upon inequalities of the surface; also how they can find the highest ground by tracing the brook to its source. Direct them to discover the advantages arising from springs, brooks, and rivers, taking those benefits first which are most obvious. They get water from the spring; the cattle get drink at the brook, perhaps not far distant; the stream turns a mill. Call their attention to the general fertility of the soil along the banks of streams; remind them of the dependence of vegetation upon moisture, and show the absorbing power of the soil. They have seen the stream overflowing its banks in the spring, and have observed the deposit of mud. They have seen the farmer spreading his top-dressing, &c. Interval and marsh might also form subjects for lessons. Show the facilities for intercommunication afforded by large and navigable streams.

13. **Lakes.**—From some pond in the neighbourhood develop the idea of a lake. Tell of some of the great lakes.

14. **Climate.**—Lead the children to see that the sun is the source of heat, and that perpendicular rays give more heat than oblique. Allow them to hold the hand to the fire, so that the rays fall perpendicularly—then inclined; in the former case they will feel the heat much more than in the latter. This will afford an illustration of the cause of the varied power of the sun at different times of day, and at different seasons of the year. (Do not attempt at this stage to explain more minutely the cause of the seasons.) Show that the mountain is colder than the plain. This they can infer from the fact that there is often snow there when there is none upon the low ground. They can also infer that slope influences temperature, by comparing the south side of a hill with the north. Show the cooling effect of evaporation of water from the earth. Various illustrations may be used for this purpose. A bottle of water, wrapped in a cloth kept saturated with ether, may be frozen in a hot day. Cologne water poured on the skin produces cold. It requires heat to change a liquid to the form of vapour, and heat is taken from the bottle or body for this purpose—the liquid having combined with heat, becomes vapour, and escapes into the atmosphere. So also sprinkling water upon the floor on a

hot day cools the room. Hence it can be shown that if the ground is kept wet all the time, it must be cold, as all the heat will pass off with the vapour; and hence the value of cultivation and drainage. The children may also be told that it is very unhealthy to live near wet, boggy places, especially in hot weather. They can now form some idea of what is meant by the climate of a country and understand some of the causes on which it depends.

15. A Physical Map.—Having first called upon the children to observe carefully the natural features of the school section, as the hills, the plains, the valleys, the brooks, and the ponds, ask for a description, including an estimate of distances. Draw from them that these are the features impressed upon the place by the Creator, and not made by man—that they are called *natural* or *physical* objects. Direct them to make a physical map of the section on a given scale.

16. Minerals, Plants, and Animals.—Give lessons upon the minerals and rocks, the trees and wild plants, birds and wild animals found in the section. Avoid, at this stage, scientific and technical terms—encourage the children to bring specimens—teach them to observe qualities and characteristic features—lead them to see adaptations and uses. Teach them to observe the difference between the stones found in one part of the school section and those of another part, or of an adjoining school section; also the difference in the forest trees and wild flowers, in connection with varieties of soil. Refer to exotics not being able to endure our winter, but reared as house plants.

17. Inhabitants.—The children have seen white men, black men, and copper-coloured or Indians; perhaps all are found in the school section. Draw from the children the characteristic features of each. Tell them that the white men came from a distant country called Europe, the blacks also from a distant land called Africa, and that the Indians were the original inhabitants, found here when our forefathers came from Europe. Describe the condition and mode of life of the Indians when the country was discovered—show the difference between civilized and savage. Show that it is no reproach to have a black or copper-coloured skin—that he who fails to do his duty is the one to feel shame—that he who acts uprightly, be he black or white, should be esteemed. “Act well your part; there all the honour lies.”

18. Pursuits.—Give lessons on the various occupations of men, as arising out of their necessities and circumstances; the advantages of each devoting himself to a certain calling, as compared with attempting to do the work of all the trades; the dependence of the pursuits in any particular locality upon the natural conditions of that locality—farming, upon the qualities of the soil—fishing, upon contiguity of the sea—mining, upon mineral products—lumbering, upon the forest—ship-building, upon the forest and the sea—manufactures, upon the abundance of raw material and ease in finding market; the importance of trade, or exchanging products with other people, means of transporting goods, as by shipping, railroads, trucks, &c., giving an idea of the relative advantage of each, and the importance of having good roads. Show the advantage of having a class of persons who devote themselves specially to trade—merchants; the circumstances which influence the merchant in choosing his location—a place of resort, and easy communication with other places, why the town or village has arisen in one place rather than in another; leading the children to see what occupations must largely engage the attention of the inhabitants of the town, as trade, manufactures, and fishing—why they could not be farmers.

19. Education.—Give lessons on the educational condition of the section; the advantages of education to the individual himself—personal satisfaction, effectiveness of labour guided by intelligence, avoidance of dangers, &c.; the advantages of living in a community where all are educated—gratification and sharpening of mind arising from intercourse, opening up new industries, furnishing honourable employment, diminishing poverty and crime, rendering property more valuable; hence it is just for everybody to support the school.

20. Civil Divisions.—Exercise the children upon distances; let them measure a quarter of a mile, and note the time occupied in walking it—how long would they be in walking a mile? how long in walking a hundred miles? how far could they walk in a day? Call attention to artificial bounds in the school section, as bounds between farms—show how bounds may be imaginary lines having definite position, as lines running through a forest or marsh, where there is no fence. Ask for the name of the place where the children live—how far around that name extends—what places adjoin on the various sides, north, east, south and west—in what county they are situated. Direct them to make a map of the school section, or of a portion of it, laying down the roads, the bounds between farms, and the houses.

21. The County.—Question the children what they have seen beyond their own school section and within the county. Get as complete a description as possible, from different children who have been from home, of the mountains, plains, streams, coast-line, villages, products, occupations, and trade of the county. Make a map of the county, laying down mountains, streams, villages, &c., according to the dictation of the children—the teacher making all necessary corrections, and supplying omissions, both in the description and on the map, and also giving some interesting details with respect to the early history of the county. Show them the importance of observing everything closely when they visit a new place; in that way they can learn the geography of the place. As opportunities occur of obtaining examples and illustrations, picture out geographical terms, as a bay, a gulf, a strait, an island, a cape, a peninsula, &c. *Direct the pupils to make a map of the county.*

22. Nova Scotia.—Nova Scotia may now be taken up as a whole, giving first some of the interesting points of its early history, without referring much to precise dates. Tell of the Indians, their mode of life when the country was discovered—of the condition of the country at that time—of the early French settlements—the name Acadia, given by the French—the capture by the English—difficulties of settlement, &c. Give an idea of the size of Nova Scotia by comparison with some known area—give lessons on the leading physical features, as mountains and rivers—then the civil affairs, pursuits, government, and political relations. *Direct the pupils to make a map of the Province on a given scale.*

23. The World.—A few incidental lessons should now be given for the purpose of calling attention to other parts of the world. Some familiar article of foreign produce will form a good introduction. A barrel of flour, for instance, will lead to a lesson on Ontario, or the United States; a piece of broadcloth, to one on England; an ostrich feather, to one on Africa; tea, to one on China, &c. In this way the children will see that there are many countries with which we have intercourse, and they should point in the direction in which the various countries are situated with respect to Nova Scotia. Their interest having been excited, they will be anxious to know how intercourse is carried on with foreign countries. This will lead to conversation about long voyages over the sea.

24. Land and Water.—Lessons may now be given on the Earth, as consisting of land and water—their proportions—the benefit arising from their relationship—how a country is benefited by inlets of the sea, referring to the bays and harbours of Nova Scotia. The great divisions of land and the great oceans can be pointed out, and their names given.

25. Voyages.—Question the pupils as to the mode of representing the surface of the Earth by maps—show the Hemispheres as representing the whole Earth; that, although on separate sheets and apparently two worlds, they are united. Trace voyages, carrying products of one country to another—awaken curiosity by telling of vessels pursuing generally one course, and finally arriving at the starting-point.

26. The Earth a Globe—Its Motions.—Show a globe as a correct representation of the Earth—that this is proved by going uniformly in one direction, and at last arriving at the starting-point. Give other

simple proofs. Illustrate the Earth's daily rotation—its axis—the poles—day and night. By carrying a ball around some central object representing the sun, explain the Earth's annual motion and the seasons. It can be shown that the sun is never directly above our head beyond the breadth of a belt around the middle of the Earth, equidistant from the poles, and that the sun crosses this belt twice a year—that on account of the globular form of the Earth, the sun's rays fall more and more obliquely as we go from the central belt toward the poles, and hence the cold increases.

27. **Circles.**—Lessons may now be given on the equator, the tropics, the northern and southern hemispheres, the five zones, latitude and longitude. The children having previously been taught the position of the poles, the equator can be shown as a circle midway between the poles, also as dividing in two equal parts the belt which the sun crosses twice a year. Show the importance of knowing the distance of a place from the equator—that the distance between the equator and each pole is divided into ninety equal parts called degrees of latitude—that these degrees are marked by circles parallel to the equator and to each other—that we count from one to ninety, commencing at the equator and ending at each pole. Show that Nova Scotia is about

midway between the equator and the north pole. Explain how we define the position of places more definitely by lines running north and south, called *meridians*, or lines of longitude, crossing the equator at right angles and meeting at the poles—that the equator is supposed to be divided into 360 equal parts by such lines—that there is no natural place at which we can begin to count, but it is usual to begin with the meridian which passes through London, counting 180 degrees east and west. Explain the difference of time of places not on the same meridian—that it is noon in the eastern part of Nova Scotia earlier than in the western. Give the difference in time between London and Halifax, and show how the longitude may be calculated.

To prevent misapprehension respecting the preceding *Oral Exercises*, it may be well to repeat, that it is designed that they should be simply *preparatory* to the systematic study of geography from the text-book. Great advantage will also result from continuing such exercises after the book has been placed in the hands of the pupil.

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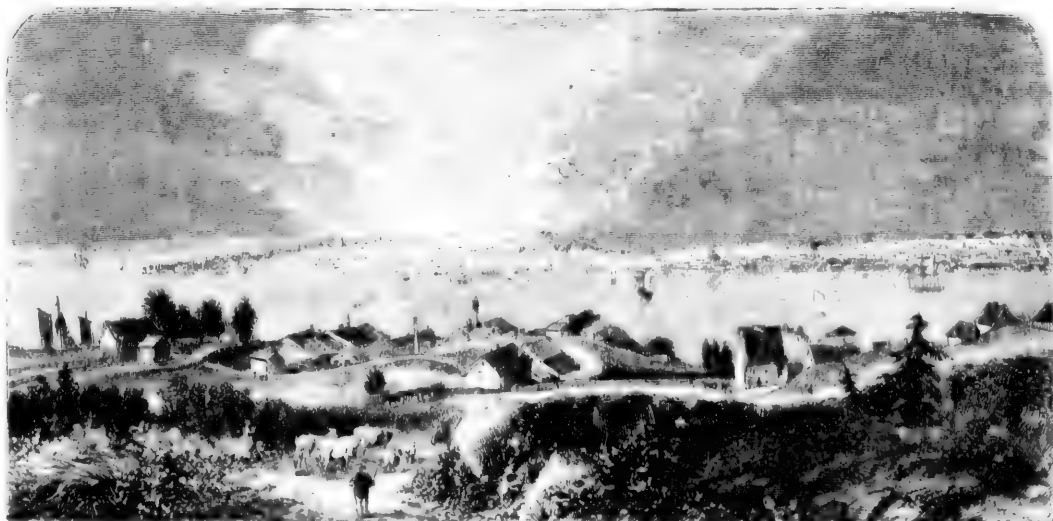
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SCHOOL GEOGRAPHY.

NOVA SCOTIA.



HALIFAX.

Introduction.—1. This book is written especially for the children who live in Nova Scotia—to tell them not only about their own country, but also of many other countries, where all the people in the world live. Many of you have never been very far from home, and have not seen much of the world; so you should be glad to read and learn about it. You should learn first all you can about your own neighbourhood; then about your own country; then about all the countries on the Earth. This study is called *Geography*.

2. I shall not undertake to teach you the geography of your own section; for you have eyes to see with, and other senses to help you to get knowledge, and you have feet to carry you everywhere around your neighbourhood where knowledge can be gained. It is a great

shame, then, if you do not know far more about the hills, the valleys, the brooks, the springs, the stones, the wild flowers and trees, the birds and wild animals, the products of the fields, the occupations of the people, and many other things of interest around you, than a stranger.

3. On another page is a map of Nova Scotia. I hope you all know something about making maps, and that you will try to make very good ones. I have seen quite small boys and girls draw maps almost as good as this.

You observe that the Province of Nova Scotia consists of two natural divisions, separated by a narrow passage of water called the *Strait of Canso*.

4. The larger division, called *Nova Scotia*, and sometimes *Nova Scotia Proper*, is nearly surrounded by water, and hence is called a *peninsula*; and the narrow neck of land on the north, where there is no water, is called an *isthmus*. The smaller division, named *Cape Breton*, is quite surrounded by water, and is therefore called an *island*. These two divisions form the *Province of Nova Scotia*.

I. History.—5. Long ago, our forefathers lived far away to the eastward beyond the ocean, in Europe. Nova Scotia was then inhabited by Indians, the ancestors of those who come to our houses to sell baskets or to beg. They had no cultivated fields, or fine houses with gardens and orchards; but they dwelt in rude wigwams, and lived by hunting and fishing. The whole country was one dense forest, the home of innumerable moose, caribou, and bears.

6. Nearly three hundred years ago, some Frenchmen, who had crossed the ocean to see America, the land of the Indians, visited Nova Scotia. They were so pleased with the country that they determined to make it their home, and accordingly formed a settlement on the shores of a beautiful basin, at a place now called Annapolis. This place, you will see by the map, is in the western part of Nova Scotia. The French, however, did not call the place Annapolis, but *Port Royal*.

7. To the whole country the French gave the name of *Acadie*, or *Acadia*, an Indian word said to mean *abundance*. Hence the early French settlers were usually called *Acadians*.

The Acadians had scarcely got well established, when the English came, claimed the country, and destroyed the settlement at Port Royal. The King of England, who was a Scotchman, gave the country to a friend of his, also a Scotchman; so they named it *Nova Scotia*, which means *New Scotland*.

8. For more than one hundred years it seemed uncertain whether France or Britain was to own Nova Scotia, so frequently did it pass from one to the other. But about one hundred and fifty years ago it was finally acknowledged as British territory. Port Royal, at that time the most important place in the country, then received the name of *Annapolis Royal*, or the *City of Queen Anne*. The Acadians were told they might remain in the country if they would become British subjects.

9. There were not many British settlers in Nova Scotia until 1749, a little more than one hundred years ago, when Governor Cornwallis came with a company of colonists, selected a situation by the sea, cut away the forest, and began to build the city of Halifax. You will find the place marked on the map.

The Indians, who had always been friendly with the Acadians, were for many years very hostile to the English, destroyed their property, and cruelly murdered and scalped any persons whom they found unprotected.

10. In those early times the British and French nations were almost constantly at war, and they often sent their war vessels across the Atlantic to America, for the purpose of destroying each other's colonies. The British colonists in Nova Scotia became very much alarmed, lest the Acadians should join the French to do them harm; for the Acadians naturally liked their own countrymen and king better than any other.

11. Accordingly, the Governor sent soldiers who seized all the Acadians that they could find, put them on board vessels, and sent them out of the country. Several thousands of these poor people were thus taken from their beautiful settlements of Grand Pré and Canard, in the east of King's County. It was very hard to be forced away from their fine farms, houses, and orchards, and set down destitute in a

strange land. A few ran away and hid in the woods until the danger was over.

12. The French still held the Island of Cape Breton, and they had built, on the south-east coast, a very strong town called *Louisburg*. The British took this town in 1758, a little over one hundred years ago, and they have owned the island ever since.

II. Position.—13. Nova Scotia lies on the west side of a great ocean called the Atlantic. It is bounded on the north-west by the Bay of Fundy; on the north, by New Brunswick, Northumberland Strait, and the Gulf of St. Lawrence; and on the other sides by the Atlantic Ocean.

England is so far east that the sun rises there four hours earlier than in Nova Scotia.

III. Form.—14. The Peninsula of Nova Scotia is like a *triangle*, with the base on the Atlantic, and the apex at the isthmus.

The Island of Cape Breton is somewhat ovate, or *egg-shaped*, with a triangle jutting out on the north.

EXERCISE.—Draw upon your slates the general form of Nova Scotia and Cape Breton.

IV. Coast.—15. The land bordering on the sea is called *the coast*. People who live near the sea have the best means of sending their produce to market, and of obtaining such things as they need from other countries; for goods can be carried in vessels cheaper than in any other way. The length of coast is therefore a matter of much importance.

You will see by the map that Nova Scotia is long and narrow; that it is nearly surrounded by water; and that the sea often runs up into the land, forming *bays* and *harbours*.

16. Let us take an imaginary tour around Nova Scotia.

We set out at *Bay Verte*, on the north, from which we enter *Northumberland Strait*. Going east, we pass *Pugwash*, *Wallace*, and *Tatamagouche* harbours; also, *Malagash Point* and *Cape John*.

See *Pictou Harbour*, with its light-house. Here are vessels coming out of *Pictou Harbour*, laden with coal for Quebec or Montreal; in a few weeks they will return with flour. Yonder also comes the steamer from Charlottetown.

A little further east is *Merigomish Harbour*, *Cape St. George*, *St. George's Bay*, and the *Strait of Canso*. What a number of vessels are passing through the strait! Some of them are probably taking potatoes and oats from Prince Edward Island to Halifax; others have come down the River St. Lawrence with flour.

17. Sailing north around Cape Breton, we pass *Port Hood*, *Mabou*, and *Broad Cove*; but there are no good harbours, and the shore is high and rocky. On the north, are *St. Lawrence* and *Aspy Bays*, *Cape St. Lawrence* and *Cape North*. Cape North is said to be 1100 feet high. This is a dangerous coast, on which vessels are frequently cast away. Yonder to the north, about 13 miles, is *St. Paul's Island*. It has two light-houses, and a few persons live upon it, to tend the lights and give relief to the ship-wrecked.

18. We now turn south, passing *St. Ann's Bay*, *Great Bras d'Or*, and *Little Bras d'Or*. Between these channels is the *Island of Boudardarie*, about 22 miles long; and beyond the island the channels meet in an irregular sea, called *Bras d'Or Lake*. These inland waters

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have several branches; as, *East Bay, West Bay, St. Denis Basin, Barra Strait, St. Patrick's Channel, and Whykokomagh*. They extend nearly across the island, leaving only a narrow neck of land, about half a mile in breadth, called *St. Peter's Isthmus*.

19. Passing south from Little Bras d'Or, we come to *Sydney Harbour*, which is said to be one of the best harbours in the world. Here we shall find many vessels loading with coal for *Halifax, Quebec, Montreal, and the United States*. Perhaps, also, we may see the steamer from Newfoundland, which calls here on her way to *Halifax*. Coal is very plentiful near this coast, and vessels are loading with it at *Lingan, Glace Bay, and Cow Bay*.

Here is *Miré Bay*, and yonder is *Scatarí Island*, where the fishermen cure their fish.

20. We come now to *Louisburg Harbour*, where stood the old town built by the French. A few fishermen's houses occupy the site. We pass *Gabarus Bay* and come to *Isle Madame*, on the north of which is *Lennox Passage*, and on the east *St. Peter's Bay*, from which the people are making a canal across the isthmus to the Bras d'Or waters. On the south of Madame is *Chadabucto Bay*, noted for its mackerel fishery. On this coast we shall see many fishing vessels, whose headquarters are at *Arichat*, on *Isle Madame*.

21. Here is *Cape Canso*, near which there was an important settlement in the early history of the country. Away to the south-east is *Sable Island*, surrounded by dangerous shoals, on which vessels have often been cast away. Men are stationed upon different parts of the island to give relief to the ship-wrecked. There are also droves of wild ponies on *Sable Island*.

22. As we go south-west, along the Atlantic coast of Nova Scotia, we shall pass a great many fine harbours, too numerous even to give all their names. This coast also abounds in fish, and we shall see many fishing vessels and boats.

Here is *Halifax Harbour*, which is very deep, large, and well protected from winds. The upper part of the harbour is called *Bedford Basin*. *Halifax* is on the west side of the harbour, and *Dartmouth* is on the east side. Here are ships from various parts of the world;—from England, with cottons, woollens, silks, and various manufactured goods; from the United States, with flour; and from the West Indies, with sugar and molasses.

23. Further west are *Margaret's Bay* and *Mahone Bay*, with a high ridge of land between them, ending in *Crown Point*. We pass *Lunenburg, Liverpool, and Shilburne*, where we see men engaged in building vessels, or in loading those already built with lumber and fish.

Near *Barrington* is *Cape Sable*, a small island, and the most southerly part of Nova Scotia. We come now to *Yarmouth*, which is noted for ship-building and trade. Further north are *St. Mary's Bay, Petite Passage, Grand Passage, Long Island, and Brier Island*, which is the most westerly part of Nova Scotia.

24. We are now in the *Bay of Fundy*, which is much the largest bay on the coast. *Digby Gut*, here on our right, is a narrow passage leading to *Annapolis Basin*. This is where the first French settlers sailed in, nearly three hundred years ago; and the steamer from *St. John* goes through this passage on her way to *Digby* and *Annapolis*.

The shore along up the bay is high and rocky, like a great wall; and there are no harbours, but only little creeks and coves, where you see many schooners loading with wood, potatoes, and apples.

25. Here is a high point called *Cape Chignecto*, where the waters divide into *Minas Channel* and *Chignecto Bay*. As we pass along to the south, we find the channel becoming very narrow between *Cape d'Or* and *Cape Split*; but as we come round *Cape Blomidon*, which rises boldly near 500 feet, the waters widen out into *Minas Basin*. The shore on our right, along the basin, is quite low, and we pass the mouths of several small rivers. Those schooners coming down the rivers from *Canning, Canard, and Port Williams*, are carrying potatoes and apples.

26. On the south of *Minas Basin* is *Le Grand Pré*, a large and

fertile marsh, near which many of the old Acadians once lived; and yonder, near the mouth of the *Gaspereau*, they were put on board the vessels which carried them out of the country.

Here, at the mouth of the *Acron*, is *Hantsport*, noted for its ship-building. Further up, at *Windsor*, vessels are loading with plaster and the steamer is just leaving for *St. John*.

Further east is *Cobequid Bay*, at the head of which are the mouths of the *Shubenacadie* and *Salmon* rivers.

27. Returning now, we pass up *Chignecto Bay* and *Cumberland Basin*, at the head of which we are within 12 miles of *Bay Verte*, where we set out. If a canal were cut across the isthmus, we could sail entirely around Nova Scotia.

28. There is a very curious thing about the sea. If you were to stand by the shore, you would find that the water is ever changing its level—rising or falling. Observing awhile, you would perceive that there is a regular rise for six hours, and then a falling away for the same time, as if another sea were poured in and then bailed out again. This rising and falling is called the *tide*.

The head waters of *Cobequid Bay* and *Cumberland Basin* are remarkable for very high tides—the difference between the level of low water and high water being 60 or 70 feet.

EXERCISE.—You may now trace the coast line of Nova Scotia and Cape Breton on your map plate, marking the names of the bays, harbours, straits, capes, and islands.

V. Area.—29. If we could change the shape of Nova Scotia so as to make it a perfect square, with the same room in it that it has now, each side would measure 136 miles. If we divide this square into six equal parts, five of them would make the Peninsula, and one of them the Island of Cape Breton.

A line drawn through the Province from north-east to south-west, or from Cape North to Cape Sable, would measure about 370 miles; and a line from the head of Bay Verte to Crown Point, 110 miles.

EXERCISE.—Suppose a man were to walk 12 hours a day, and 3 miles each hour, how long would he be in travelling the whole length of the Province?

VI. Surface.—30. When you go through your own neighbourhood, you observe that the ground is not perfectly level. It is the floor, but there are hills and valleys; and away in the distance, perhaps, there are higher grounds, which you call mountains. So it is throughout the Province—low rounded hills, and valleys, with some higher ridges called mountains. The land which seems most level has a slope; and where there is a brook, you can tell by its course the direction of the slope.



31. A ridge of land sloping in opposite directions, like the roof of a house, is called a *water-shed*. If you look on the map, you will see that there is a water-shed running through the middle of Nova Scotia, from one end to the other, from which streams are flowing in opposite directions. This we may call the *backbone* of Nova Scotia.

32. The highest mountains are in the north of Cape Breton; but even here they are not very high, not exceeding half a mile. The *Cobequid Mountains*, along the north of Minas Basin and Cobequid Bay, are about one-fifth of a mile in height. They form a water-shed, throwing streams to the north and to the south.

In the western part of Nova Scotia are the *South Mountains*, forming the western half of the backbone.

We have one other mountain range, called the *North Mountain*, which forms a wall along the south of the Bay of Fundy, from Blomidon to Brier Island.

Between the North and South Mountains is a beautiful and fertile valley, from 5 to 10 miles broad. It forms two gentle slopes, one on the west and one on the east.

33. You have sometimes seen snow upon the mountains when there was none on the lowlands. This is because it is colder on the mountains. In some countries the mountains are so high that they are covered with snow all the year, and no one can live upon them.

EXERCISE.—Mark the mountains and water-sheds upon your outline map.

VII. Rivers.—34. Much of the rain which falls sinks into the earth and forms springs. The springs send forth small streams, which, uniting as they flow over the country, form brooks and rivers.

The water-sheds in Nova Scotia run lengthwise, so that most of the streams are thrown across the country, and very soon reach the sea. The rivers, therefore, are quite small. In some countries the rivers are so large and long, that vessels can go up into the land for hundreds of miles. The longest in Nova Scotia are not much over 50 miles in length.

35. The following are the chief rivers of Nova Scotia:—

On the south of the central water-shed—*Country Harbour, St. Mary's, Liscomb, Middle River, Musquodoboit, Sackville, Goo's, La Have, Petite, Port Medway, Liverpool, Jordan, Roseway, Clyde, Tusket, and Sissiboo.*

On the north of the central water-shed—*Annapolis, Bear, Allen, Habitant, Canard, Cornwallis, Gaspereau, Avon, St. Croix, Kennetcook, Petite, Shubenacadie, Stewiacke, Middle River of Pictou, East River, Sutherland, French Barby, Right's, West, South, and Pomket.*

On the north of the Cobequids—*Hubert, Maccan, Napan, La Planche, Missquash, Skinimicus, Philip, Pugwash, Wallace, Waugh, and John.*

On the south of the Cobequids—*Partridge Island River, Great Village, Folly, De Bert, Chigannis, North, and Salmon.*

In Cape Breton—*Margerie, Baddeck, Middle, St. Denis, Inhabitant, Grand, and Miré.*

In the valley between the North and South Mountains, the streams flow lengthwise the country.

VIII. Lakes.—36. When water flows into a basin-like hollow, it forms a *lake*. There are many lakes in Nova Scotia, along the courses of the rivers, particularly on the southern slope. You see by the map that they are often in chains, or groups.

The most important lakes in the Province are—*Rossignol, Grand Lake, Ship Harbour Lake*, in Nova Scotia; and *Ainslie*, in Cape Breton. These lakes are from 10 to 15 miles in length.

In some countries there are lakes nearly twice as large as all Nova Scotia.

EXERCISE.—Lay down the principal rivers and lakes on the outline map.

IX. Soil.—37. We see the farmers ploughing, casting in their seed, and after a few months storing their harvest. The ground which they cultivate is called *soil*. Some soil is rocky, or cold and wet, and nothing will grow on it; other soil is fertile, and yields large crops.

If we were to travel through Nova Scotia, we should find, generally, the best farms in that part of the country which lies north of the central water-shed. In all parts of the Province, the soil along the margins of the rivers is fertile.

X. Climate.—38. Some countries far to the south, as the West Indies, are very hot, so that frost and snow are unknown; others away to the north, as Labrador, are so cold that the ground is always frozen or covered with snow. In some countries, as Brazil, there is a great deal of rain; in others, like Egypt, none at all. In some the air is pure and healthful; in others it is poisonous. In speaking of these things, we use the word *climate*, and say that a country has a *cold* or a *hot* climate, a *moist* or a *dry* climate.

39. As we have neither the great heat of southern countries, nor the severe cold of those in the north, we say that Nova Scotia has a *temperate* climate. Our climate is also very healthful, so that people live to be as old in Nova Scotia as in any other part of the world.

XI. Minerals.—40. The stones which you see lying about the fields are called *mineral* substances. Gold, silver, iron, and coal are also minerals. Some of the most useful and valuable minerals are buried deep in the earth, and men who are employed in digging for them are called *miners*. Miners often go very deep, digging under fields and cities, and even under the sea.

41. The most important minerals found in Nova Scotia are, *coal, iron, gold, gypsum, lime, granite, slate, and grind-stone.*

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42. Coal is very plentiful in the eastern and northern parts of Nova Scotia. It would be interesting to visit the *Abbie Mines* in Pictou County, or some of the other coal mines, and see where the busy colliers, all black with dust, are pecking away at the coal seams, far beneath the surface. It would seem a gloomy place to stay very long, where the sun never shines, and there is nothing but the dim lamp to give light. It is probable that most of you would be afraid to go down where the men are at work. You would require to get into a sort of tub and be let through a small opening, much in the same way as you would let down a bucket into a well, only much further.

In some countries the miners are very poor, and their children have to work in the mines. Some of them do not see the light of the sun for months, and grow up in ignorance. You should be very thankful both for the sunlight and the light of knowledge.

XII. Plants.—43. The trees, flowers, and other plants of a country depend on the climate and soil. Some love great heat, others cold; some cannot live without abundance of water, others are killed by so much moisture; some flourish best in stiff clay, others in light sand.

44. A large part of Nova Scotia is still covered with the native forests which once overspread the whole country. These forests of pine, spruce, hemlock, maple, beech, and oak, are very useful, giving us fuel and material for our houses, ships, and many other things.

There are many beautiful wild flowers in Nova Scotia. You have all, no doubt, seen the lovely *May-flower* which blooms early in the spring, often before the snow is all gone. It has been chosen as the emblem of Nova Scotia. Can you tell what kind of soil it loves best?

45. The farmers of Nova Scotia raise *oats, barley, rye, buckwheat, pease, beans, potatoes, and turnips*. They also raise *wheat and Indian corn*; but these crops are more uncertain.

In the western part of Nova Scotia, particularly in the valley between the North and South Mountains, there are large orchards.

XIII. Animals.—46. Wild animals are much less numerous than they were when the whole country was covered with forest. None are very ferocious, so that one is not afraid of being torn in pieces when he goes into the forest, as he might be in some countries where there are lions, tigers, and panthers.

47. The *moose*, which is the largest wild animal in Nova Scotia, lives wholly on vegetable food, like the ox. The *caribou* is a smaller animal, and has now become very rare. The *beaver, fox, and lucifer* are flesh-eaters, preying upon weaker animals, and sometimes catching our sheep and poultry.

There are many different kinds of birds, as the *eagle, hawk, owl, crow, robin, swallow, woodpecker, partridge, crane, snipe, woodcock, plover, duck, and goose*. Some birds are very useful in destroying insects, which would do great injury in the gardens and fields.

48. In hot countries there are many large and venomous serpents. The huge *boa* is able to crush an ox to death, and then swallow him.

The reptiles of Nova Scotia are the harmless *snakes, toads, and frogs*. The young of the frog, called *tadpoles*, are like fish, swimming about in the frog-ponds. As they grow larger they change their form, and hop on the land.

It is very interesting to notice how the form of an animal is adapted to its mode of life. Look at those birds like the crane, with their long necks and long legs, so nicely fitting them for obtaining their food from shallow water; or observe the toes of the woodpecker, made for climbing, and its beak and tongue for piercing.

XIV. Inhabitants.—49. There are not fewer than 350,000 people in Nova Scotia. How long would you be in counting them, suppose you count 100 in a minute?

You have, no doubt, observed that the people who live in Nova Scotia are of three different colours. Most of them are *white*, and are, generally, descendants of men and women who came from England, Scotland, and Ireland. Some of the white people are descendants of the old Acadians, and others of Germans.

But we have also a few thousands of *black* people in Nova Scotia. Their forefathers were brought from Africa as slaves. Then we have the *red* men, or Indians, whose forefathers were living here when the French discovered the country. They number about 1500.

50. There are some men and women in Nova Scotia who are unable to read, and cannot write their own names. Now that we have free schools, no boy or girl should grow up in this sad state.

Three-fourths of the people in the world have not the Bible, and do not know the true God who made all things. Many of them worship idols. Nova Scotians profess to be *Christians*, and to believe the Bible as the word of God. They do not all think exactly alike, however, on religious matters, and hence we see them going to different places of worship.

XV. Divisions.—51. For convenience in doing public business, men have divided the whole Province of Nova Scotia into eighteen parts, called *counties*—fourteen in the Peninsula, and four in Cape Breton.

The counties are not generally separated by any visible line, so if you were travelling through the country, you might not know when you passed from one county to another. There are only posts or other marks in certain places, to show the course of the division line.

In each county, the courts are held and other public business is done in some central village or town, which is called the *county town*.

52. Here are the names of the counties and county towns:—

Counties.	County Towns.	Counties.	County Towns.
GREYSBOROUGH.....	Gray'sboro'	HANTS.....	Windsor.
HALIFAX.....	Halifax.	CUMBERLAND.....	Amlerst.
LUNenburg.....	Lunenburg.	COLCHESTER.....	Truro.
QUEEN'S.....	Liverpool.	PICTOU.....	Pictou.
SHELBURNE.....	Shelburne.	ANTIGONISH.....	Antigonish.
YARMOUTH.....	Yarmouth.	INVERNESS.....	Port Hood.
DIGBY.....	Digby.	VICTORIA.....	Bridgeton.
ANNAPOLIS.....	Annapolis.	CAPE BRETON.....	Sydney.
KING'S.....	Kentville.	RICHMOND.....	Arichat.

EXERCISE.—Lay down the counties and county towns upon your maps.

XVI. Towns.—53. In towns, the houses and shops stand very close together. Farmers do not usually live in such places; they prefer to have their dwellings near the middle of their farms. Cities, towns, and villages, are inhabited chiefly by men engaged in trade, manufactures, and fishing; hence we find them situated in those places which are well suited to one or more of these kinds of business.

54. It is very important to the merchant and the manufacturer that there should be some cheap and ready way of moving goods to and from their places of business. Hence we usually find cities and towns on the sea coast, beside a navigable river, or a railroad. You will observe this to be the case with those of Nova Scotia.

55. *Halifax* is by far the largest town in Nova Scotia, and is called a *city*. It has about 30,000 inhabitants. The laws are made in Halifax, and the Governor resides there. It is called the *capital* of Nova Scotia.

XVII. Industries.—56. It is the duty of every one to be diligent at some honest labour. You have observed that men do not all follow the same business. It is best that each should have some one trade or occupation, and keep to that, as he will thus become more skilful, lose less time, and be at less expense for tools.

57. In Nova Scotia, those engaged in tilling the soil, called *farmers*, are the most numerous class. Their chief products are different kinds of grain, potatoes, turnips, butter, cheese, and apples.

Many of the inhabitants, particularly on the Atlantic coast and in Cape Breton, are *fishermen*. A large number in the counties of Cape Breton, Pictou, and Cumberland, are *coal-miners*; a few hundreds in Hants, Halifax, and Guysborough, are *gold-miners*; and some in Colchester are *iron-miners*.

Along the sea-coast, many persons are at work *building ships*; and all through the country we have many *mechanics*, who build houses, make waggons, and other useful things. Then our foundries, shoe factories, furniture factories, and other places where manufacturing is carried on, give employment to many of our people.

58. The farmers and other classes have more of their own produce than they can use, and each class requires something from the others. They therefore buy and sell.

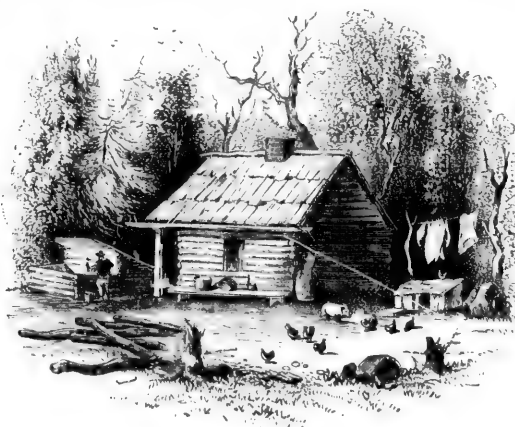
Nova Scotia also produces more of some things than all our people need; so we send away coal, fish, potatoes, and other things, to foreign countries, and bring back things which our country does not produce, as sugar, tea, and various kinds of goods.

59. This buying and selling is called *trade*, or *commerce*, and it gives employment to a very useful class of men

called *merchants*, who live in cities, towns, and villages. The goods sent out of a country are called *exports*, and those brought in are *imports*.

60. It would be of little advantage to have a great deal of produce for sale, if there were no way of getting it to market, or if the cost of taking it to market were as much as it would sell for. Hence we see the importance of having good roads and cheap ways of carrying goods.

61. Our forefathers, who first came to Nova Scotia, settled in the midst of the woods. They had no material to build fine houses, so they made humble dwellings of logs. They had no carriage-roads,



LOG CABIN.

and they travelled long journeys on foot. In the winter, they went over the deep snow upon *snoe-shoes*. Sometimes they journeyed along narrow paths through the woods on horseback; and a whole family—father, mother, and one or two children—might be seen mounted on a single horse, going to church, or to visit their friends.

The trade in those early times was mostly carried on by *pedlars*, who went about with their wares on their backs.

62. How things have changed!—thanks to the industry of those who went before us. Now we have good roads in nearly all parts of the country; we have railroads, too, which make places far apart seem very near each other. We have comfortable houses, good schools free to all, and many other advantages. We should try to make good use of these advantages, and improve our country still more.

XVIII. Government.—63. In schools it is necessary to have certain rules or laws, and those who wilfully break them must be punished, or everything will run into disorder. So men require laws to keep every one in his proper place, and prevent bad people from robbing and injuring their neighbours. There must be courts, also, to try those who are charged with breaking the laws, and to see that every man gets his due.

64. Some countries are so badly governed that there is no one to punish the robber and murderer. The strongest party does what he

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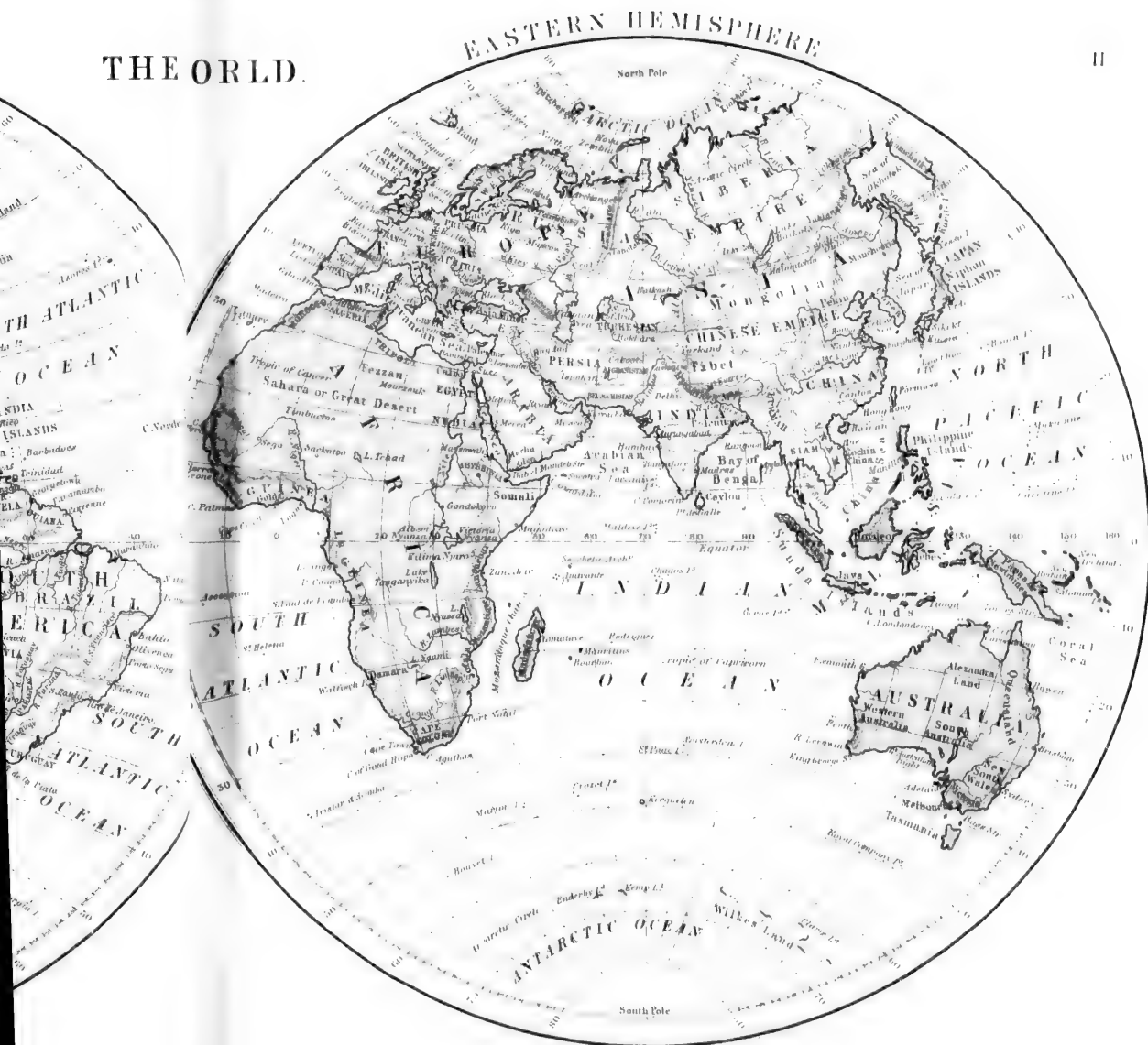
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thinks best. In such countries there can be no improvement. Industry and economy only render a man a richer prey for the plunderer. We, then, have great cause for thankfulness for the protection of a good government, to enable us to enjoy the blessings of our country, in security.

65. The head officer in the government of Nova Scotia is called the *Governor*. The laws are made by the *Legislature*, which consists of the *Governor*, *Legislative Council*, and *House of Assembly*.

A GLANCE AT THE WORLD.

Things from Abroad.—66. Nova Scotians use many things that come from other countries. Thus, perhaps, at the breakfast table we may see the products of several different countries far distant from Nova Scotia. The bread is made, it may be, of flour which came from Ontario, or the United States; the tea came from China; the coffee from the East or West Indies; the herring from the cold



BRANCH OF COFFEE TREE.

seas of Labrador; the pepper from the hot island of Jamaica; the knives, forks, and dishes from England; and perhaps there are other things which came from abroad.

67. It would be very pleasant and instructive to visit these distant lands; but this would cost a great deal of money, and would take a great deal of time. Most of us must therefore be content to obtain our knowledge of the world in some other way. These foreign articles which we use, if they had tongues, could tell us many strange things of themselves and their native lands. Thus, that lump of sugar which made the tea so sweet, was produced by hard sweating labour beneath a

broiling sun, by the poor African, far from the land of his fathers, and perhaps a slave.

Bird's Eye View.—68. Nova Scotia is but a small part of the world. We have seen that it is nearly surrounded by water; but if we cross the water in almost any direction, we shall come to land—to some one of the many countries whose products we use. Turn to the Hemispheres and find Nova Scotia, and you will see that this is the case.

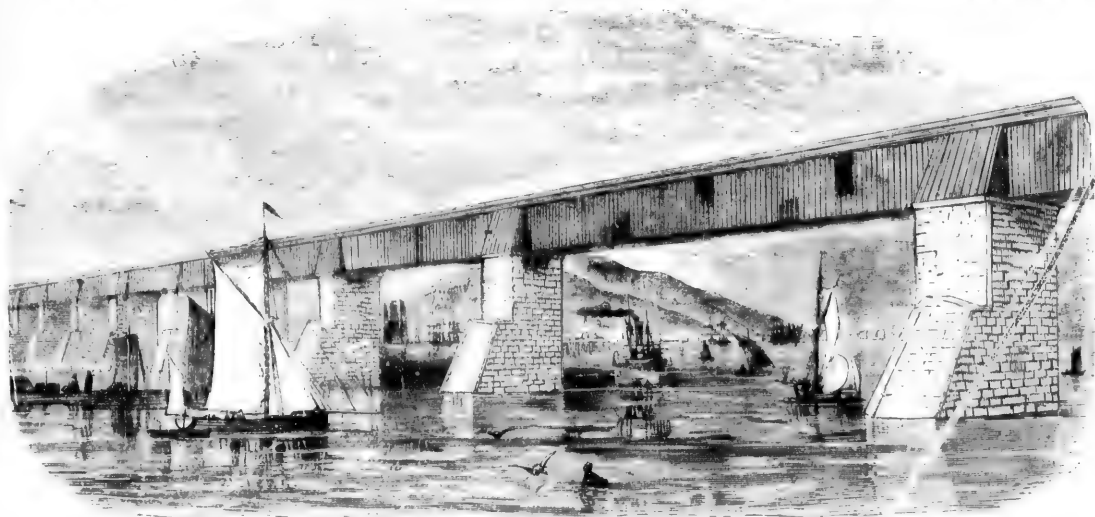
69. The *Western* and *Eastern Hemispheres* represent the whole world—all the land and water upon the Earth. These two maps, indeed, look like the pictures of two worlds. If we should sew the edges of the two maps together, so as to have the Western Hemisphere upon one side, and the Eastern on the other, we should see how the places on one hemisphere are joined to those on the other, and how the two maps form, in reality, but one world.

The Dominion of Canada.—70. Let us now, in imagination, leave Nova Scotia and make a tour through the neighbouring countries. Setting out at Halifax, we go to Truro by railway, and supposing the great *Inter-colonial Line*, which we are to have soon, is finished, we proceed north-westerly through the isthmus. We are now in *New Brunswick*, which resembles Nova Scotia in its products, only it has larger forests, and many of its people are lumberers.



LUMBERING.

71. Still travelling north-westerly, past *Bay Chaleur*, we enter another country, called *Quebec*, which also has vast forests. The railroad now runs along the bank of a great river, the *St. Lawrence*. Large ships are coming down the river, some laden with lumber, some with flour; and others are going up, carrying coal from Pictou. Here is *Quebec City*, the capital, situated on a high bluff beside the river—the oldest city in British America. Going on further west, we cross the river by the *Victoria Bridge*, which is nearly



VICTORIA BRIDGE.

two miles in length. Here, on an island, is *Montreal*, a large city containing nearly a third as many inhabitants as all Nova Scotia.

72. We will now go up the *Ottawa River* to *Ottawa City*. On the west side of the river is the *Province of Ontario*, which is one of the greatest grain countries in the world.

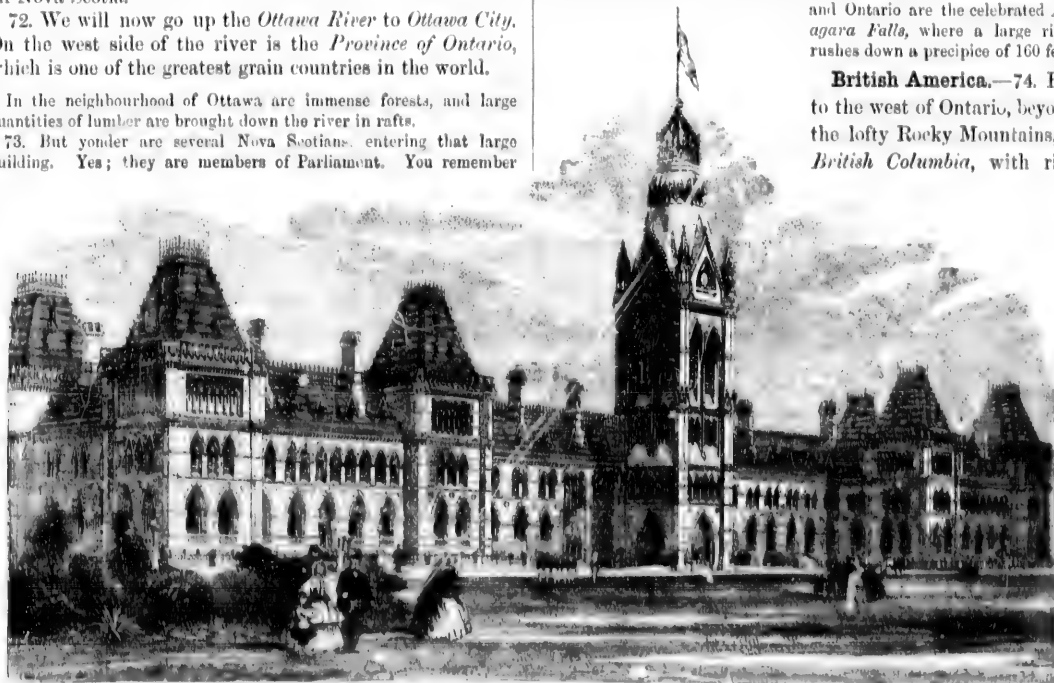
In the neighbourhood of *Ottawa* are immense forests, and large quantities of lumber are brought down the river in rafts.

73. But yonder are several Nova Scotians, entering that large building. Yes; they are members of Parliament. You remember

that Nova Scotia, New Brunswick, Quebec, and Ontario now form one great country, called the *Dominion of Canada*. *Ottawa* is the capital.

On the south and west of Ontario are vast lakes. Between Lakes Erie and Ontario are the celebrated *Niagara Falls*, where a large river rushes down a precipice of 160 feet.

British America.—74. Far to the west of Ontario, beyond the lofty Rocky Mountains, is *British Columbia*, with rich



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TOBACCO PLANT

gold mines; and on the north of Ontario and Quebec is *Hudson's Bay Territory*, a very cold country, where grain will not grow, and the few inhabitants live by hunting.

Coming to the east coast, in the Gulf of St. Lawrence we find the *Island of Newfoundland*, near which are the greatest cod fisheries in the world. Further south, separated from Nova Scotia by Northumberland Strait, is *Prince Edward Island*.

All these countries—the Dominion of Canada, British Columbia, Hudson's Bay Territory, Newfoundland, and Prince Edward Island—form *British America*.

North America.—75. On the south of British America is a large country called *The United States*. It has great variety of climate and products. In the north-east, manufacturing is a very important business; in the middle and west, wheat, corn, and tobacco are raised in great abundance; and in the south, cotton, rice, and sugar-cane.

76. *Mexico* lies south of the United States. Still further south, where the land is narrow, is *Central America*, from which we obtain logwood and mahogany. The coasts of Mexico and Central America are low, hot, and unhealthy; in the interior are high plains, called *table-land*, where the climate is more agreeable. Mexico has long been famed for its silver mines. The story of the conquest of Mexico, three hundred and fifty years ago, by the greedy Spaniards, is very interesting.

British America, the United States, Mexico, and Central America, form a great division of the Earth called *North America*.

The Western Continent.—77. On the map of the Western Hemisphere you will see North America; and on the



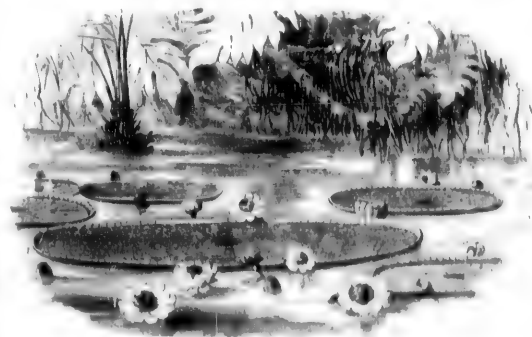
COTTON PLANT

south, beyond the Isthmus of Panama, *South America*. These two divisions form the *Western Continent*.

South America is generally a warm, moist country, yielding coffee, tobacco, rice, cotton, oranges, pine-apples, and many other fine fruits.

78. Here, on the east side, is the *Amazon*, an immense river, the largest in the world. It flows through a flat country, hundreds and hundreds of miles. On each side of the river are marshes covered with tall reeds; and beyond the marshes are vast dense forests, abounding in dye woods, ornamental woods, the india-rubber tree, and many other valuable trees.

79. One of the most beautiful plants of South America is the *Victoria Regia*, a large water-lily which grows along the borders of the



VICTORIA REGIA

Amazon. Its large strong leaves, five or six feet broad, float on the water, and in the midst of them are the rose-shaped flowers, larger than the crown of a man's hat.

80. In other parts of South America there are immense plains covered with tall grass, where roam countless herds of wild cattle.

Along the west of the country is a great mountain range, called the Andes, the summits of which are covered with perpetual snow. Here and there, cone-shaped peaks rise far above the surrounding heights, throwing out volumes of



VOLCANO IN ANDES.

smoke, like the chimneys of some great factory. These are *volcanoes* or burning mountains.

Crossing the Atlantic.—81. We will now take an imaginary tour eastward. We leave Halifax in a large steamer bound for Liverpool in England. We are soon out of sight of land; on all sides there is nothing to be seen but the sea—the far-stretching Atlantic. Our ship, which looked so large beside the smaller vessels in the harbour, now seems very small, as it is tossed up and down over the broad, high waves. We see no path, nor any signs to direct us; but the captain, by his knowledge of navigation, with his compass and chart, can take us as directly across the pathless ocean as if he followed a beaten track.

82. Yonder, rising above the water, are the masts of vessels. As we come nearer, the hulls become visible—seeming to rise gradually out of the water. This is because the surface of the sea is not level or flat like the floor, but rounded like the surface of a ball.

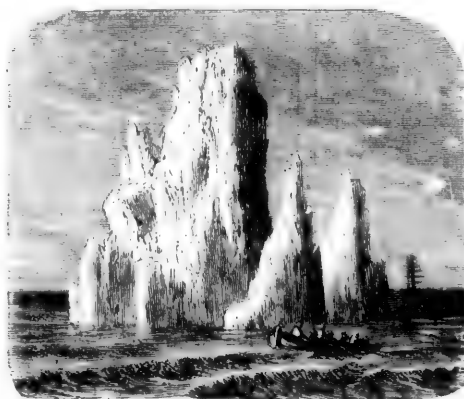
These are fishing-vessels. We are near the Island of Newfoundland, and this part of the ocean is not so deep as it is elsewhere. It is called the *Banks of Newfoundland*, and is one of the most noted cod-fisheries in the world.

83. But look, we are surrounded with a dense fog, so that we can scarcely see from one end of the ship to the other. There are two men on the look-out, and the steam-whistle is blowing, to warn any vessels that may be near to keep out of the way, lest we should run into them. The fog lies close to the sea; for when we look up, we get glimpses of the clear sky.

The water here is quite warm, and the captain says we are in the

Gulf Stream, which flows like a great river through the ocean from the Gulf of Mexico. The fog is caused by the steam which rises from the warm water.

As we pass on, the fog clears away and we can again see far over the ocean. That huge glittering object in the distance, like a mountain of



ICEBERG.

glass, is an *iceberg*. It looks very large, yet only one-eighth part of it is above the water. It has floated down from the cold regions of the north and will soon melt in these warm waters.

Great Britain.—84. It is now nine days since we left Halifax. "Land ahoy!" shouts a sailor from the mast-head. We on deck cannot see it yet, owing to the curved surface of the ocean. Soon it comes in sight and we get our first view of *Ireland*, the green isle of the sea. We call at Queenstown to leave passengers and the mail. We then pass up St. George's Channel and across the Irish Sea to Liverpool.

85. We are now in *England*, which with *Scotland* and *Wales* forms the *Island of Great Britain*. Great Britain and Ireland, with many small islands near them, are called the *British Isles*. Here is the home of our forefathers, the central and mother country of *The British Empire*, to which Nova Scotia and the rest of British America belong.

86. England is a beautiful country. Its rich green meadows are enclosed with thorn hedges, which are much prettier than the crooked fences we so often see in Nova Scotia. It has very rich mines of coal, iron, lead, and tin. It is also a great manufacturing country. Our cottons, broad-cloths, cutlery, and crockery are made here. Cotton does not grow in England, but is brought in a raw state from the United States of America and other warm countries.

87. There are many large cities in England. *London*, the largest and richest city in the world, is the capital of the empire. It stands on both sides of the River Thames, which is like a forest of masts, there are so many ships from all parts of the world. There are several large bridges over the river; and there is also a road under the river, which is called the *Thames Tunnel*.

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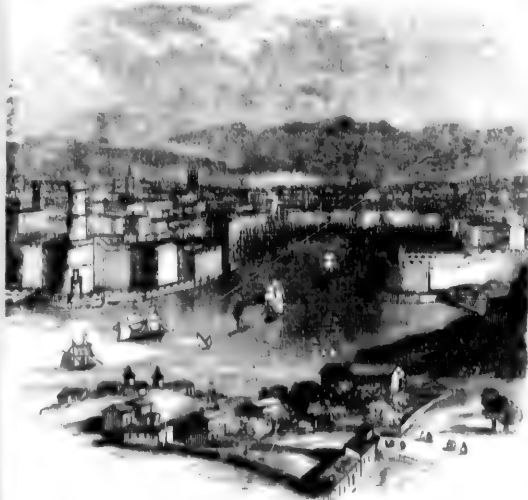


WINDSOR CASTLE.

A few miles from London is *Windsor*, near which is *Windsor Castle*, the principal residence of the Queen.

Europe.—88. Leaving England, we cross the Strait of Dover to *France*, which is part of the great body of land called *Europe*. The south of France is a land of vineyards, yielding fine grapes and wine. Here also the mulberry-tree flourishes, on the leaves of which the silk-worm feeds.

89. There are several other great countries in Europe, as *Prussia*, *Austria*, and *Russia*. On the south-east of France, beyond the snowy *Alps*, is *Italy*, containing the ancient city of *Rome*, which once ruled the world.



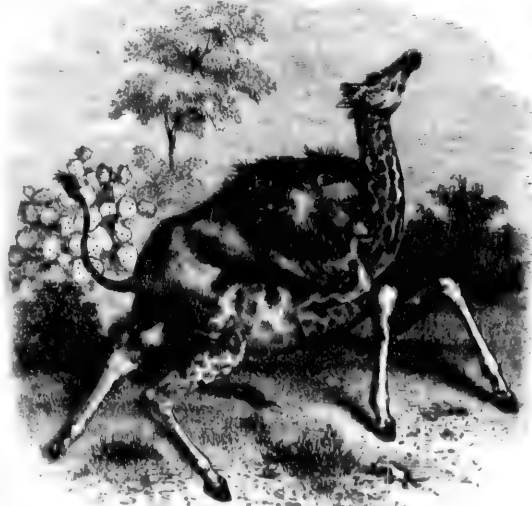
PORT OF MARSEILLES.

At *Marseilles*, in the south of France, we find a steamer going to

Egypt; so we go on board and are soon gliding over the *Mediterranean Sea*.

Africa.—90. On the south of the *Mediterranean* are the *Barbary States of Africa*, once noted for pirates who were always on the look-out for vessels to plunder. South of *Barbary* is the *Sahara* or *Great Desert*, without water, living plant, or animal, except here and there a gushing spring makes a fertile spot, called an *oasis*. Beyond the Desert is the land of the Negro, from which the forefathers of the coloured people of *Nova Scotia* came.

91. Africa is the hottest portion of the Earth, and a large part of it has no rain. It is noted for its many large and beautiful wild animals, as the elephant, lion, and giraffe. The ostrich is a large bird which runs with great fleetness. It is much hunted for its feathers.



GIRAFFE SEIZED BY A LION.

The inhabitants in the interior of Africa are very ignorant and barbarous. They wage fierce wars with one another to obtain captives for slaves.

92. But here we are at *Alexandria*, an old city, founded more than two thousand years ago. It once had a fine library, which was burned by the Mohammedans.

We now go by railroad to *Cairo*, the capital of *Egypt*, and the largest city in Africa. It does not much resemble any city we ever saw before. The streets are very narrow



OSTRICHES.

and dark. The houses do not seem to have any windows; but if we were to enter them, we would find the windows looking out upon an open square in the middle, called a court. Amid tall palm trees and orange groves, the mosques, or the Mohammedan places of worship, rise with their gilded minarets above the surrounding buildings.

93. This is Egypt, the land into which Joseph was sold as a slave, and where he afterwards became so great.

Yonder is the *River Nile*, beside which Moses was hidden by his parents, in the ark of bulrushes.

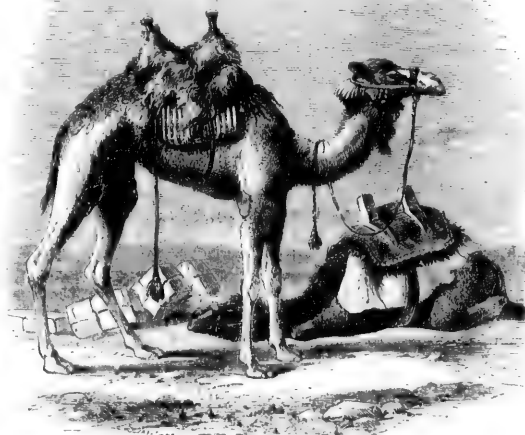
It never rains in Egypt. Water is taken from the Nile to water the fields. The river also overflows its banks during three or four months in the year, and covers the whole country with water.

94. Not far from Cairo are the *Pyramids*, which were built four thousand years ago, and have been the wonder of all succeeding ages. The largest is quite a little mountain, being 461 feet high and covering eleven acres of ground.

95. We now go by railroad from Cairo to *Suez*, on the *Gulf of Suez*, the water through which the Israelites passed on dry ground. Here we take our leave of Africa.

Asia.—96. As we sail down the Gulf of Suez, we pass on our left the desert in which the Israelites wandered forty years, and *Mount Sinai* where God gave the law to Moses. Further north is *Palestine*, the Promised Land, in which the Israelites settled after they came out of the desert.

Asia resembles Africa in having a large part of its surface covered with rainless sandy plains or deserts. The camel is one of the most useful animals in these regions, for it can endure thirst a long time. It is much used as a beast of burden by travellers in the deserts.



THE CAMEL.

97. Passing down the *Red Sea*, through the *Strait of Bab-el-Mandeb* and the *Gulf of Aden*, crossing the *Arabian Sea* and the *Bay of Bengal*, we arrive at *Calcutta*, a large city in *India*. There are many ships here from various parts of the world, some of which, from America, are laden with huge blocks of ice.

98. India belongs to Great Britain. It is a very warm, fruitful country, yielding rice, sugar-cane, cotton, silk, opium, indigo, coffee, cinnamon, pine apples, and other fine fruits and spices.

Along the north are mountains five and a half miles high—the highest in the world. On the southern slopes are vast forests, abounding with elephants, lions, tigers, and other large wild beasts.

99. Leaving Calcutta we sail south-east through the *Strait of Malacca*, and then north-east over the *China Sea*, to *Canton*, a port of the great country called *China*. Here we see ships from America and Europe, taking in tea, silk, and rice, which are the important products of the country. China is said to contain one-third the inhabitants of the Earth. The soil is carefully cultivated, and the hill-sides are formed into terraces, on which tea, coffee, and other products are raised. In many places the rivers are covered with floating gardens, which are formed by covering a raft of timber with earth. In the gardens are little houses.

100. Asia is larger than North and South America together. It contains two-thirds of the human race. Nearly all its inhabitants are heathens, destitute of Christianity. In the central part of Asia there are vast high plains unfit for cultivation. The inhabitants possess many horses, cattle, and sheep; and they wander from place to place,

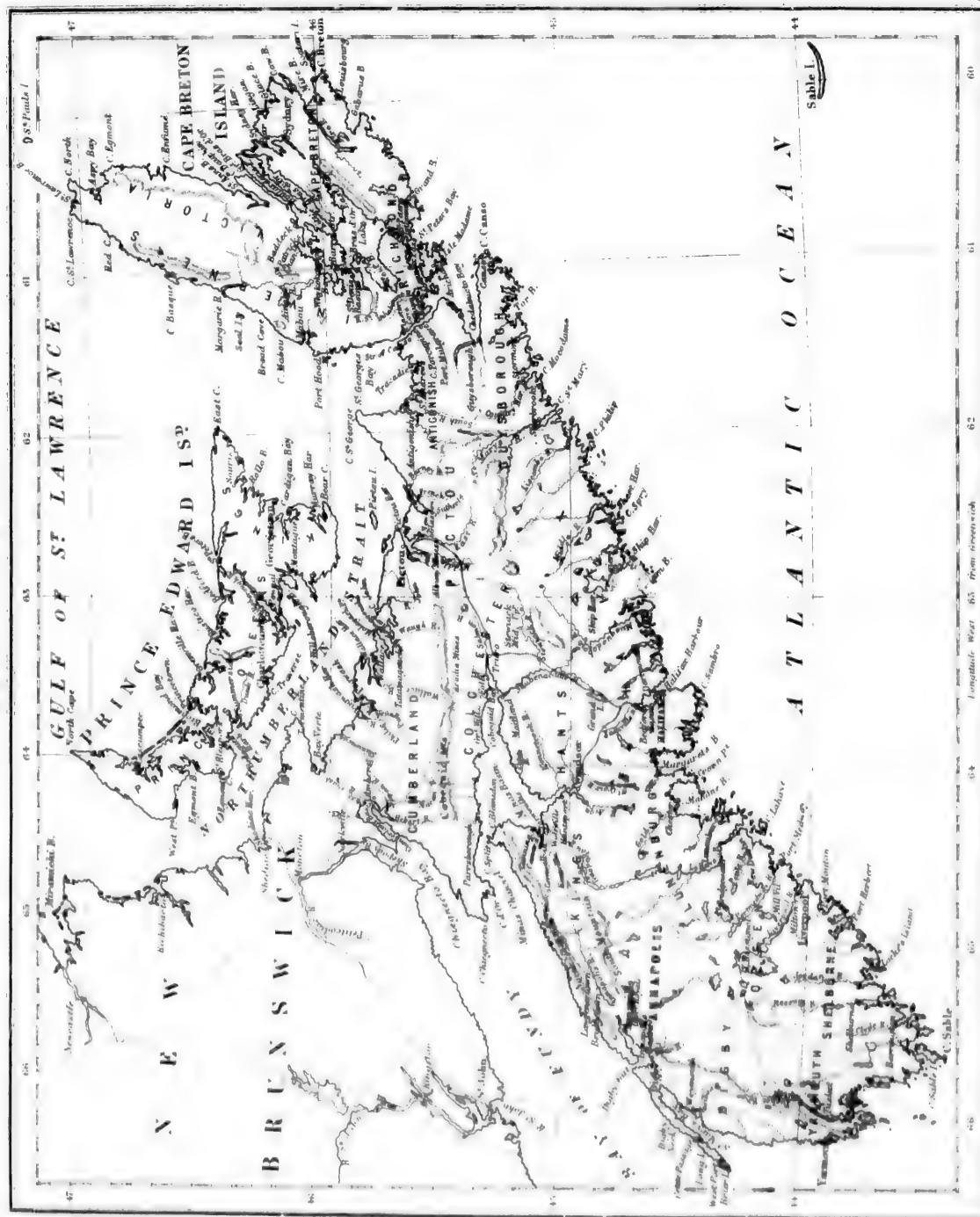
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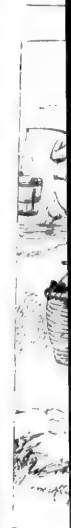
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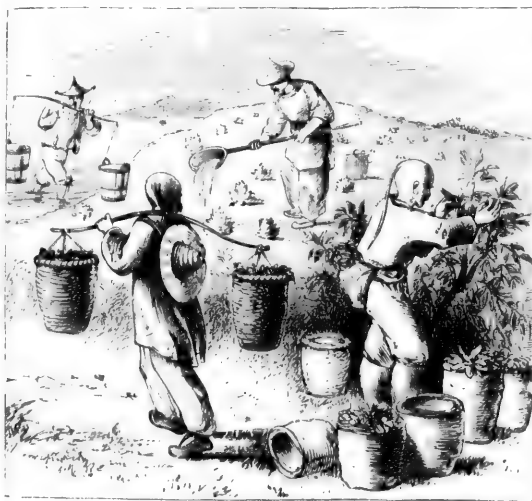
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TEA PLANTATION.

in search of pasture. They are notorious robbers, and travellers seldom venture into their country.

Europe, Africa, and Asia are all connected, and taken together form the *Eastern Continent*.

Oceania.—101. The only remaining portions of the world to be seen are the Islands of the Ocean, sometimes called *Oceania*. We sail south amid the hot and fertile *East India Islands*, whose choice spices scent the air far around. Among the rich products of these islands, are cocoa-nuts, cinnamon, nutmegs, and cloves. We cross the *Indian Ocean*, passing the west and south coasts of *Australia*. This is the largest island on the Earth, and forms a part of the wide-spread British Empire.

102. There are many things in Australia which appear very strange to a Canadian. The sun is north of us at noon; and although it is near Christmas, when we have winter at home, it is midsummer here.

The native trees are nearly all evergreens, and present their thin edges to the sun; so that the forests are not shady and dark like those of South America. Many of the animals have a pouch or sack in which they carry their young. There is one very curious animal which has the feet and bill of a duck and lays eggs, but is covered with fur and suckles its young like a cat.

Australia has very rich gold mines. Many of the people tend sheep, and large quantities of wool are exported to England.

103. We shall continue our course eastward across the *Pacific Ocean*, which is the largest of all the oceans. You must now turn to the Western Hemisphere and mark our course north-easterly, among the numerous groups of islands.



AUSTRALIAN PLANTS.

Most of the islands of the Pacific are very beautiful and fertile, yielding the finest fruits.

104. Some of these islands are inhabited by savages, and it would be dangerous to land amongst them; in others, the natives have been taught the principles of Christianity by missionaries from Britain and America. You see a group called the *New Hebrides*, where there are several missionaries from Nova Scotia. The inhabitants were once very fierce, and cruelly murdered Mr. Gordon and his wife, who went from Nova Scotia to teach them the way to heaven.

Further on are the *Sandwich Islands*, where Captain Cook, the great navigator, was killed by savages, nearly a hundred years ago.

Homeward.—105. Having crossed the Pacific, we travel over the Isthmus of Panama in the rail-cars, and at *Aspinwall*, on the Caribbean Sea, take a steamer for New York, the largest city in America. We come to Boston and thence to Halifax.

Conclusion.—106. How strange! We set out at Halifax, travelled an easterly course, and here we are at Halifax again! The fact is, the Earth is a great ball, and we have made a journey round the world. This explains why we always saw the masts of a distant ship first.

If you now trace our course on the globe, which represents the Earth better than a map, you will understand how we travelled constantly in the same direction, and at length arrived at the place from which we started.

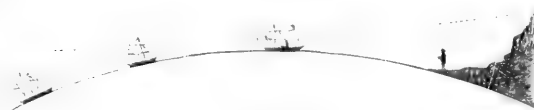
THE EARTH AS A PLANET.

The Form of the Earth.—1. People once believed that the Earth was an extended plane. There are many proofs that this is not the case.

2. Navigators have often, by sailing constantly in the same direction, arrived at the place from which they set out.

The first voyage around the world was made between 1519 and 1522, under the command of Magellan.

3. When a ship comes in sight, we first see the top-masts and the rigging, lastly the hull, as if it were coming over a



DISTANT SHIPS.

convex surface; and when the sailor leaves the shore, low objects are the first to disappear—the last seen are the mountain tops.

4. If a man six feet high were to stand by the sea-shore when the water is smooth, he could see a boat three miles distant; if he were to stand on a high rock, so as to be elevated twenty-four feet, a boat would be visible six miles distant.

5. For these and various other reasons, all intelligent persons now believe that the Earth is a vast ball. It does not appear round, because it is so large that there is but little curvature in any portion of the surface which we can see at one time. If we were to ascend in a balloon far above the Earth, we would see much more of its surface at one view, and it would appear curved, as a ball.

6. An observer on the Earth's surface, or at any elevation above it, always finds that his view is bounded by a circle; and that this circle, which is called the *Sensible Horizon*, is enlarged in proportion to his elevation. Could he rise sufficiently high, he would see half the Earth's surface, when the circle bounding his view would be called the *Rational Horizon*.

7. One might suppose, at first, that the unevenness of the land surface would be a serious obstacle to this theory re-

specting the form of the Earth. But the Earth is so large, that the highest mountain interferes no more with its general roundness, than the roughness of the rind with the general shape of the orange.

8. The Earth is not an exact sphere, but is slightly flattened at two opposite points called the *Poles*, and bulged out near the middle or *Equator*. The shape resembles that of an orange.

An artificial globe is the best representation of the Earth. The globe does not perceptibly differ from a perfect sphere, so slightly are the poles of the Earth flattened. In a globe two feet in diameter, the flattening of the poles would not diminish the polar diameter one-twelfth of an inch.

9. There are other proofs of the Earth's spherical form.

As we travel east or west, the sun rises proportionally earlier or later; and as we go north or south, new stars come in view, whilst those behind us disappear below the horizon.

The Earth always casts a circular shadow, which is the invariable form of shadow for spherical bodies only.

In cuttings for canals, a curve on the bottom of eight inches in the mile is required, to keep the water at a uniform level.

10. If the Earth were an exact sphere, as one went towards either pole, the stars in that quarter of the heavens would rise uniformly according to the distance travelled. This is not quite the case; for in the vicinity of the pole a greater distance must be passed over to obtain the same increase in the elevation of any star. Hence we infer that the curvature near the poles is less.

Attraction of the Earth.—11. In lifting a stone from the Earth, we must use our strength to overcome the resistance which it makes to a change of place. This resistance, which we call weight, is the result of the Earth's *attraction*—a force by which everything on the Earth's surface is drawn towards its centre. If we raise the stone and leave it unsupported, it falls, because it is pulled down by this force.

12. The weight of a body is the measure of the force with which it is attracted by the Earth. Attraction is mutual in all bodies, and in proportion to the quantity of matter they contain. Thus the stone, in proportion to its matter, attracts the Earth, as well as the Earth the stone.

13. The attractive power of the Earth acts in a right line drawn from the Earth's centre to the body attracted; and this power diminishes as the square of the distance from the centre increases. If the Earth, without any increase of matter, were swelled out to twice its present size, a body which now weighs a pound upon its surface, would weigh only one fourth of a pound.

14. As a body weighs nearly the same in all places on the Earth, the surface must be everywhere nearly the same distance from the centre. Hence we have an additional proof of the Earth's spherical form.

A body weighs slightly more near the poles, which is a further proof that these parts of the Earth are flattened. The term *oblate spheroid* expresses the exact form of the Earth.

Cause of the Spheroidal Form.—15. When we pour water upon a revolving grind-stone, the water flies off in proportion to the rapidity of the motion; also a waggon-wheel throws more mud when we drive rapidly. If a piece of soft putty, in the form of a sphere, be made to revolve rapidly on an axis, the poles will become flattened, while the middle, or equator, will bulge out.

By supposing that the Earth, whilst in a semi-fluid state, revolved around a line passing from one pole to the other, we can account for its spheroidal form.

Size of the Earth.—16. A railway train, moving at the rate of 60 miles an hour, would go around the Earth in about seventeen days. The distance around the Earth is called its *circumference*, and is equal to 24,860 miles.

The area of the Earth's surface is 10,590 times greater than that of Nova Scotia, or it is equal to a square of 14,035 miles.

The polar diameter of the Earth is 7898 miles; the equatorial diameter is 7924 miles.

Light and Heat.—17. The Sun is the great source of light and heat. Without this luminary the Earth would be wholly uninhabitable; every animal and plant would perish, and all the water upon the Earth would be congealed to the hardest ice.

The Sun is so far removed from us, that, by travelling 60 miles an hour, it would take one hundred and eighty years to travel an equal distance. Light moves so rapidly, that it occupies only about eight minutes in coming to us from the Sun.

18. The Sun is 1,400,000 times larger than the Earth; but, being less dense, it is only 360,000 times heavier. Its diameter is 883,000 miles, and it is 91,725,000 miles distant from the Earth.

Day and Night.—19. Place a lighted lamp beside the globe, so that it will shine from pole to pole, and turn the globe upon its axis. A fly standing on any part of the globe will have light and darkness in succession. In like manner, day and night follow each other in turn, by the rotation of the Earth.

The Earth turns around an imaginary line called the *axis*. The *North Pole* is at one extremity of the axis, the *South Pole* at the other.

20. A light shining upon a spherical body illuminates just one-half of its surface at once. The Sun is always shining upon the Earth; therefore one-half the Earth's surface is in the light, the other in the dark. The boundary line between the light and dark hemispheres is called the *Circle of Illumination*. As the Earth rotates, this circle is ever changing its position.

21. When moving rapidly in a rail-car we seem to be at rest, and the objects along the track to be gliding past us in the opposite direc-

tion. The rotation of the Earth from west to east gives the Sun an apparent motion from east to west.

It was once thought that the Earth was stationary, and that the Sun revolved around it. According to this theory, the Sun must, every twenty-four hours, describe a circle having a diameter equal to twice the distance of the Sun from the Earth; and the stars, which are inconceivably more remote, must travel correspondingly faster in order to complete their revolution in the same time.

22. The most direct proof of the Earth's rotation is furnished by an interesting experiment with the pendulum.

Unequal Length of Day.—23. In the summer we have long days and short nights; in the winter, the reverse; so that light and darkness in the course of the year are exactly equal. The longest day is the 21st of June, the shortest the 21st of December. Twice in the year—the 20th of March and the 23d of September—day and night are equal, twelve hours each. At the Equator day and night are always equal, and the inequality is greatest near the poles.

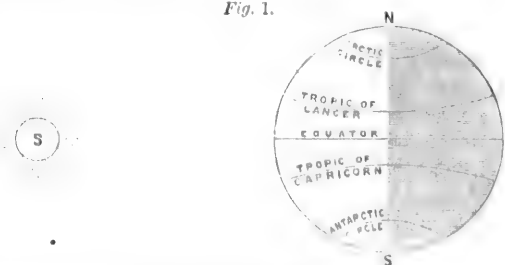
24. At mid-summer, when the day is longest, the Sun at noon is high up in the heavens, and much more nearly over-head than in winter. This is only an apparent shifting of the Sun's position—the real change is in the Earth. The Earth not only rotates upon its axis, it also moves around the Sun in a vast circle. The path in which the Earth revolves around the Sun is called the *Earth's Orbit*.

Illustration.—25. Place a lamp on the floor, to represent the Sun, and with the chalk draw a large circle around it for the Earth's orbit. Place the globe in the orbit, on the east side of the lamp, with the north pole pointing to the ceiling in the northern part of the room, in such a manner that the axis shall be parallel to the east side of the room, and inclined towards the northern wall about one-fourth the distance between a vertical line and a horizontal.* The lamp will now shine from pole to pole, and if the globe be turned on its axis, it will illustrate the equality of day and night in the spring.

Without changing the inclination of the axis or its parallel position with respect to the east wall, move the globe through one-fourth the orbit, so that it shall stand on the south side of the lamp. The rays of light will extend beyond the north pole, illuminating more than half the northern hemisphere, and less than half the southern. We have here the position of the Earth at mid-summer. By moving the globe in the same manner to the west and north sides, we shall have the Earth's position in the autumn and at mid-winter.

26. The Earth thus makes a revolution around the Sun once a year, during which it presents different parts of its surface directly to the

Fig. 1.

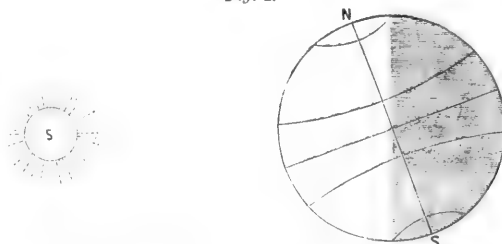


DAY AND NIGHT EQUAL,
March 20th and September 23rd

* It should be inclined 23½ degrees from the perpendicular

Sun. Hence the difference in the length of day and night. The accompanying diagrams represent the Earth in its relation to the Sun at different times of year. In figure 1, the Sun is vertical at the Equator; in figure 2, it is vertical at the Tropic of Cancer; and in figure 3, at the

Fig. 2.



LONG DAYS AND SHORT NIGHTS IN THE NORTHERN HEMISPHERE,
June 21st.

Tropic of Capricorn. In figure 2, the whole space within the Arctic Circle has constant day; in figure 3, it has constant night.

Fig. 3.



SHORT DAYS AND LONG NIGHTS IN THE NORTHERN HEMISPHERE,
December 21st.

27. An imaginary plane, extending from all parts of the Earth's orbit to the centre of the Sun, is called the *Plane of the Earth's Orbit*. If the Earth revolved around the Sun with its axis perpendicular to the plane, the plane would cut the Earth at the Equator, and the Sun would always be vertical at the Equator, as in figure 1. But the axis is inclined $23\frac{1}{2}$ degrees from the perpendicular, and this inclination causes the circle described on the Earth, by the plane, to cut the Equator at an angle of $23\frac{1}{2}$ degrees. This circle is called the *Ecliptic*. As the Sun appears to move in the opposite edge of the plane, its annual path is also called the *Ecliptic*.

28. The axis of the Earth always maintains the same position, so that in any part of the orbit it is parallel with itself in every other part. A star situated in the northern heavens, to which the North Pole is directed, is called the *north star*.

29. The plane of the Earth's orbit may be illustrated by a large circular sheet of tin with a hole in the middle, through which a lamp is placed so that half the flame is above the plate and half below. A ball with a wire through the middle, representing the Earth and its axis, can now be carried round the outer edge of the tin, keeping the proper inclination of the axis.

Apparent Motion of the Sun.—30. In the spring and autumn the Sun is vertical at the Equator. It then appears to describe a circle in the heavens directly over the Equator. This circle is called the *Equi-*

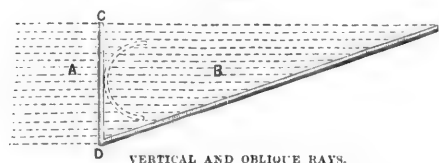
noctial (*equa nox, equal night*), because day and night are then equal at all places. In pursuing its apparent annual path in the Ecliptic, the Sun during our summer is north of the Equinoctial; during our winter, south. The Sun, therefore, crosses the Equinoctial twice during the year. The points in which the Ecliptic and Equinoctial cut each other are called *Equinoxes*—the *Vernal* and *Autumnal* Equinox. The Sun's position each side of the Equinoctial is called the *Sun's Declination*, which is either north or south.

31. During the three months succeeding the Vernal Equinox, the Sun's northern declination is constantly increasing, acquiring its maximum on the 21st of June— $23\frac{1}{2}$ degrees. The Sun now appears to be stationary for a little, then to turn back towards the Equator. The northern point in the Ecliptic is called the *Summer Solstice* (*Sol, the Sun; and sto, to stand*). In like manner, the point marking the greatest declination south is called the *Winter Solstice*. The circles which the Sun describes $23\frac{1}{2}$ degrees each side of the Equator, are called *Tropics* (*trepo, to turn*)—the *Tropic of Cancer* on the north, and the *Tropic of Capricorn* on the south.

32. When the Sun is vertical at either tropic, the rays fall $23\frac{1}{2}$ degrees beyond the pole on the same side of the Equator. The polar circles are supposed to be drawn at this distance from the poles—the *Arctic Circle* at the north, and the *Antarctic Circle* at the south.

Change of Seasons.—33. If we hold a board upright before the fire, so that the rays fall perpendicularly upon its surface, it will receive much more heat than when we incline it away from the fire. In the former case more rays fall upon a given space than in the latter. This is illustrated in the annexed diagram. The rays *a b*, which fall perpendicularly on *c d*, are spread over a space three times as long by falling obliquely on *d e*. If *c d* were bent to a semi-

Fig. 4.



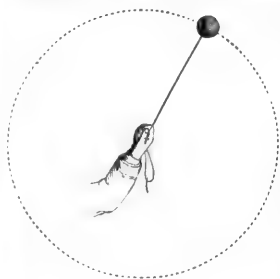
VERTICAL AND OBLIQUE RAYS.

circle, as in the dotted line, a similar effect would be produced.

34. If the Earth were a level plain, all parts of its surface would receive an equal quantity of the Sun's rays. Its spherical form causes the surface to incline away from the Sun, and so to receive less heat, as we go north or south of that part where the Sun is vertical. Now as the Sun is ever moving from one tropic to the other, the inclination of the rays at any given place must be constantly changing, and consequently the temperature, at different times of year, is very unequal. Hence we have *Spring, Summer, Autumn, and Winter*.

35. The difference of temperature, at different times of year, is much less within the tropics, where the Sun is always nearly vertical, than near the poles.

Cause of the Earth's Annual Motion.—36. If we whirl a stone rapidly,

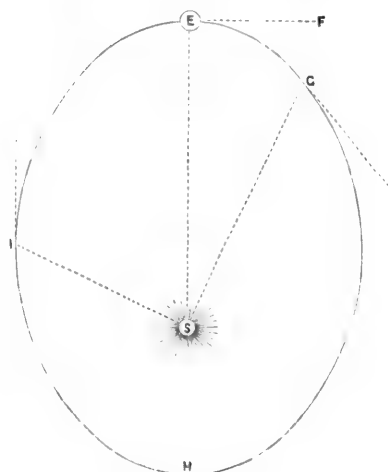
Fig. 5.
CIRCULAR MOTION.

as illustrated in the diagram, two forces are employed in producing circular motion—a force given by the hand in throwing the stone forward, and the power of the string preventing it from flying off.

In a somewhat similar manner, the Earth's revolution around the Sun is occasioned by the nice balancing of two forces—one impelling it forward in a straight line, called the *centrifugal force* (*centrum*, the centre, and *fugio*, to flee), and the attractive power of the Sun, called the *centripetal force* (*centrum*, and *peto*, to seek).

37. The accompanying diagram represents the Earth in its orbit around the Sun. If the centripetal force were destroyed, the Earth would fly off in the tangent

ef; if the centrifugal force ceased to act, the Sun would at once draw

Fig. 6.
EARTH'S ANNUAL MOTION.

the Earth to itself. The combined effect of the constant acting of the two forces is to carry the Earth around the Sun in the elliptical orbit *eghi*.

38. The elliptical form of the orbit is occasioned by the varying power of the centrifugal force in different parts of the orbit.

At *e* the two forces act at right angles; through the half of the orbit, *egh*, the angle is less, and the two forces act more in harmony. The Earth is now rapidly approaching the Sun, so that at *h* it is three millions of miles nearer than at *e*. At this rate we would soon be dragged to the Sun; but the Creator has wisely and beautifully balanced the forces with the nicest precision.

39. The two forces, acting so nearly in conjunction, increase the velocity of the Earth, and the increased velocity strengthens the centrifugal force. The Earth is accordingly driven away from the Sun through the half of the orbit *h i e*. The forces are here acting nearly in opposition to each other; hence the velocity is diminished, the centrifugal force is weakened, and the Earth is brought back in obedience to the centripetal force.

40. The Earth's orbit is not so elliptical as it appears in the figure. The longer diameter is about the one-sixtieth part more than the shorter. The Earth is said to be in *perihelion* when nearest the Sun, in *aphelion* when furthest from it.

The Earth is in perihelion in our winter. As it moves more rapidly in this

part of its orbit, the time from the autumnal to the vernal equinox is about eight days less than from the vernal to the autumnal.

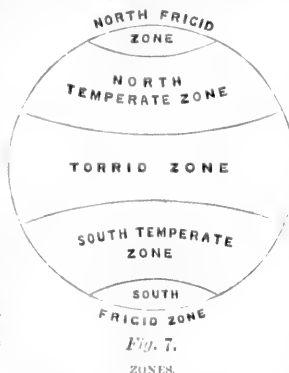
Circles.—41. As the Earth is a sphere, all lines drawn around it are circles. Those circles which measure the circumference of the Earth, or divide its surface into two equal portions, are called *great circles*; those which divide the surface unequally are *lesser circles*. The Equator and Ecliptic are great circles; the Tropics and Polar Circles are lesser circles.

42. Every circle is supposed to be divided into 360 equal parts, called degrees; each degree into 60 minutes; and each minute into 60 seconds. Degrees, minutes, and seconds have their appropriate signs,—thus, 49°, 25', 30", is read 49 degrees, 25 minutes and 30 seconds.

The length of a degree varies according to the size of the circle of which it forms a part.

Zones.—43. The tropics and the polar circles divide the Earth into five belts or *zones*, which vary in temperature according to their distance from the Equator. (See 34.) The belt between the tropics, being the most directly exposed to the Sun's rays, is the hottest portion of the Earth, and is therefore called the *Torrid Zone*.

The Sun's rays fall very obliquely upon the portions within the polar circles and the cold is intense; consequently they are called *frigid zones*—the *North Frigid* and the *South Frigid Zone*.

Fig. 7.
ZONES.

Those belts which are situated between the tropics and the polar circles are free from the extremes of heat and cold, and are called *temperate zones*—the *North Temperate* and the *South Temperate Zone*.

44. If the Earth's surface were divided into 100 equal parts, these parts would be distributed among the zones nearly as follows:—40 in the Torrid Zone, 26 in each Temperate Zone, and 4 in each Frigid Zone.

Latitude.—45. The position of a place may be given by stating the zone in which it is situated. We often wish to be more definite, and it is both natural and convenient to give the distance from the Equator. This distance is called *latitude*. If a place is on the north of the Equator, it has *north latitude*; if on the south, *south latitude*.

The distance from the Equator to either pole is 90°, which is the highest latitude any place can have.

46. Latitude is indicated on maps and globes by lines or circles,

called *parallels of latitude*, which are drawn east and west between the equator and the poles. Degrees of latitude are numbered on lines running north and south, or along the sides of the map.

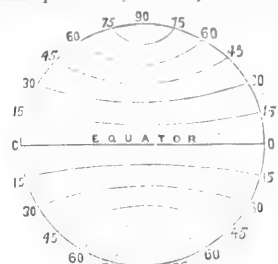


Fig. 8.
PARALLELS.

47. The most simple mode of finding latitude in the northern hemisphere is by taking the altitude of the north star. At the Equator this star is always in the northern horizon, and as we travel north it rises regularly in proportion to the distance travelled, until at the North Pole it is directly overhead. That is, at the Equator the altitude is 0; at the pole 90°; and at all intermediate places it is exactly equal to the latitude of the place. Thus at Halifax the altitude of the north star is 44° 38', which is the latitude.

48. Latitude can also be determined from the meridian altitude of the Sun—that is, the height at noon. When the Sun is in the Equinoctial, the meridian altitude at the Equator is 90°, and the altitude becomes less as the latitude increases, until at the pole the Sun appears in the horizon. Therefore, to obtain the latitude, we subtract the altitude from 90°.

49. When the Sun is not in the Equinoctial, and we are on the opposite side, we add the declination to the altitude, and subtract the sum from 90°, for the latitude; if we are on the same side as the Sun, we first subtract the declination from the altitude and then subtract the remainder from 90°. The Sun's altitude at Halifax on the 21st of June is 68° 52'; from this subtract 23½°, the declination north on that day, and we have 45° 22'; subtract this from 90°, and the remainder, 44° 38', is the latitude.

Measurement of the Earth.—50. By observation, we should find that the elevation of the polar star at Halifax is 44° 38'; if we go due north until the star has an elevation of 45° 38', we shall have travelled one degree of the Earth's circumference. We would find by measurement, that the distance travelled was 69½ English miles; when multiplied by 360—the number of degrees around the Earth—give 24,876 miles for the Earth's circumference.

51. Near the poles, a greater distance must be passed over to obtain the same increase of elevation in the polar star, hence a degree of latitude is slightly greater in high latitudes. (See *Form of the Earth*, 8.)

Longitude.—52. All places due north or south of each other have noon at precisely the same time; hence, lines drawn north and south from pole to pole are called *meridians* or *noon lines*. Every place is supposed to have a meridian passing through it.

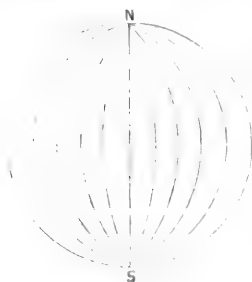


Fig. 9.
MERIDIANS.

53. We say that Halifax is in north latitude 44° 38'; by which we state that it is situated somewhere on a circle passing round the Earth at that distance from the Equator. How shall we determine the precise point which the city occupies in the circle?

54. We naturally commence at the Equator in estimating latitude; but there is no such natural line at which we can begin in reckoning distance east and west. We therefore fix upon some one meridian and name it the *first meridian*. Distance from this first meridian is called *longitude*, which is either *east* or *west*.

55. It is convenient that all reckon from the same meridian. Accordingly, throughout the British Empire, and generally in the United States, that which passes through London is taken as the first, and a place is said to have east or west longitude according as the meridian which passes through it is east or west of that which passes through London.

56. Meridians are counted by semi-circles; thus, the first meridian terminates at the poles, and the other half of the circle, on the opposite side of the Earth, is 180° distant, which is the greatest longitude a place can have. Degrees of longitude are marked on the equator of globes and hemisphere maps—at the top and bottom of other maps.

57. As the meridians all meet at the poles, it will be seen that they are converging lines, and that a degree of longitude becomes constantly less as we approach the poles.

The Earth's circumference east and west being rather greater than from north to south, a degree of longitude at the Equator slightly exceeds a degree of latitude.

58. The Earth's revolution upon its axis from west to east, once in 24 hours, causes an apparent motion of the Sun round the Earth in the same time, but in the opposite direction. The Sun thus traverses 360° in 24 hours, or 15° in 1 hour, or 1° in 4 minutes. Therefore for every degree we travel west the Sun will be 4 minutes later in coming to our meridian; that is, noon, as well as every other hour in the day, will be that much later. If we travel east, the time will be earlier.

To Find Longitude.—59. To determine our distance east or west of London, that is, our longitude, we compare London time with our own. A nicely constructed time-piece, called a *chronometer*, shows the time at London, and we are one degree east or west of London for every four minutes by which our time is faster or slower than the chronometer.

60. The following table shows the length of a degree of longitude in different latitudes:

Degree of latitude.	Geographical miles.	English miles.	Degree of latitude.	Geographical miles.	English miles.
0	60.00	69.07	50	38.57	44.35
5	59.77	68.81	55	34.41	39.58
10	59.09	67.95	60	30.00	34.50
15	57.95	66.65	65	25.36	29.15
20	56.38	64.84	70	20.52	23.60
25	54.38	62.53	75	15.53	17.86
30	51.96	59.75	80	10.42	11.98
35	49.15	56.51	85	5.23	6.00
40	45.96	52.85	90	0.00	0.00
45	42.43	48.75			

OUTLINE OF THE SOLAR SYSTEM.

The Earth a Heavenly Body.—61. During a portion of the year a large and beautiful star may be seen in the western heavens, shortly after sunset. This evening star is the planet Venus. The Earth is very much such a body as this star. It is about the same size, and, if viewed from the same distance, would probably look much like it.

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4,41	39,58
5,00	34,50
5,36	29,15
5,52	23,60
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5,90	0,00

SYSTEM.

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Astronomers inform us that Venus, like the Earth, rotates upon its axis and revolves around the Sun.

Planets.—62. There are many other celestial bodies similar to the Earth and Venus, which revolve around the Sun. All such bodies are called *Planets*. Some of the planets are smaller than the Earth, and some are very much larger; some are much nearer the Sun, others are greatly more remote. All are opaque bodies.

63. The following are the eight largest planets, in the order of their distance from the Sun:—*Mercury, Venus, the Earth, Mars, Jupiter, Saturn, Uranus, and Neptune*.

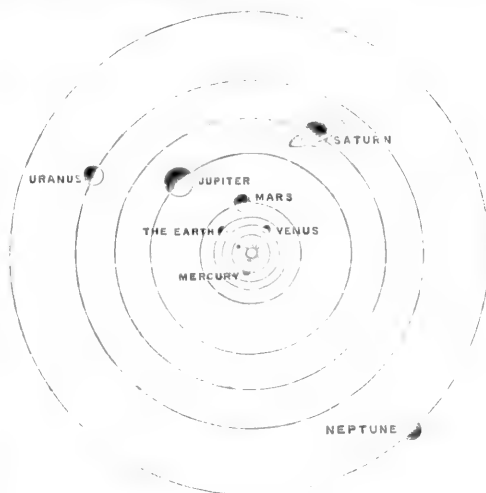


Fig. 10.
SOLAR SYSTEM.

Their orbits form concentric circles, as in the diagram.

Between the orbits of Mars and Jupiter are many small planets, usually called *planetoids*. The number now known is 72;—all have been discovered within the present century. The small planet Vulcan is nearer the Sun than Mercury.

Moons.—64. The Moon is an opaque body, and it shines by reflecting the light of the Sun. It accompanies the Earth around the Sun, and whilst making this revolution it revolves 13 times around the Earth. It thus makes a revolution round the Earth in 27 days, 7 $\frac{1}{2}$ hours; and as it turns upon its own axis in the same time, it always presents the same face to us. It is 240,000 miles distant from the Earth, and its diameter is 2160 miles.

65. The Moon being a spherical body, the Sun shines upon only half of its surface at once. It appears in different phases, according to the extent of the illuminated surface presented to us. When the Moon is on the opposite side of the Earth from the Sun, the whole illuminated hemisphere is turned towards us. This phase is called *full moon*. When the Moon is so situated between the Earth and the Sun that we see only the edge of the illuminated hemisphere, we call it *new moon*.

66. When the Moon passes immediately between the Earth and the Sun, it cuts off the light of the Sun from a portion of the Earth's surface, causing an eclipse of the Sun.

Again, when the Earth, in a similar manner, intercepts the rays, we have an eclipse of the Moon. An eclipse of the Sun can take place only at new moon; an eclipse of the Moon only at full moon.

Eclipses do not occur at every new and full moon, because the orbits

of the Earth and Moon not being in the same plane, these bodies and the Sun are seldom in a straight line.

67. Jupiter, Saturn, Uranus, and Neptune are also accompanied by moons. The moons are sometimes called *satellites* and *secondary planets*. By observing the eclipses of Jupiter's satellites, London time can be ascertained in any part of the world where the eclipse is visible. The observer requires a nautical almanac in which the calculation for the eclipse is made for London.

68. The Sun, the Planets, the Moons, and a class of bodies called Comets form the *Solar System*. The following table gives various facts relative to the Planets:—

Planets.	Diameter in Eng. miles.	Distance from the Sun in Eng. miles.	Length of Year in days.	No. of Moons.
Mercury, ...	3,140	37,000,000
Venus,	7,700	69,000,000	225	..
Earth,	7,916	91,725,000	365	1
Mars,	4,100	141,000,000	687	..
Jupiter,	90,000	494,000,000	4,333	4
Saturn,	76,068	906,000,000	10,759	8
Uranus,	34,500	1,822,000,000	30,687	6
Neptune, ..	42,000	2,869,000,000	60,625	1

Fixed Stars.—69. The Solar System comprises only a few of the celestial bodies. The others are called *Fixed Stars*, and are distinguished by their silvery twinkling light. They are supposed to be suns forming centres of systems like the solar system. Light comes from the Sun to us in about eight minutes; but the nearest fixed star is so remote that light is 34 years in travelling from it to the Earth.

EXERCISES.

70. The following Exercises will test the pupil's knowledge of some of the principles explained in the preceding sections.

1. Why should the sailor climb to the top-mast when he wishes to see the distant shore?
2. How much does the Earth curve in a mile?
3. What are the two theories by which day and night can be explained, and give the principal arguments in favour of the true theory?
4. Just as the 9 o'clock gun was fired at Halifax, I observed by the chronometer that it was 14 minutes past 1 on the following morning at London. What is the longitude of Halifax?
5. Find in the Northern Hemisphere a city at which the altitude of the Sun on the 21st of June is 83° 30'; the chronometer showing London time to be 5 minutes to 10, a.m., when it is noon in the city.
6. Find a city in which one has no shadow on the longest day in the year, and on every other day the shadow falls to the north; and at which it is 32 minutes past 7, p.m., when it is noon at London.
7. It is said that at the poles the year is divided into two periods, six months day, and six months night; also, that when the Sun is vertical at the Equator, the days and nights are twelve hours long, over all parts of the Earth;—explain these contradictory statements.
8. Find a cape in the Northern Hemisphere at which, on the longest day in the year, the Sun sets and, without any intervening night, rises immediately in the same part of the horizon; and also where it is 20 minutes to 1, a.m., when it is noon at London.
9. Two sailors left Halifax on a voyage round the world, the one going east, the other west. On the following Christmas they met at the same place. The one who had travelled east asserted that the preceding day was Christmas; the one who had travelled west, that the next day was Christmas. Explain the causes of the mistake.
10. Suppose that the travellers, in the preceding case, went round the world on the parallel of 45°, how many miles did each travel?
11. What advantage in respect to the Sun's rays has the Northern Hemisphere over the Southern, and why?

THE TERRESTRIAL GLOBE.

71. The Terrestrial Globe is a representation of the Earth, showing its form, rotatory motion, the parallels, meridians, and relative situation of places. It also enables us to illustrate many important principles respecting the Earth in its relations to the Sun.

The Wooden Horizon.—72. The globe is suspended in a wooden ring, called the *Wooden Horizon*, which represents the rational horizon and divides the globe into the upper and lower hemispheres. The upper surface of the wooden horizon is divided into six concentric circles, one of which gives the 32 points of the compass.

73. The innermost circle of the wooden horizon shows the *amplitude* of the heavenly bodies; that is, the arc of the horizon lying between the point where a body rises or sets and the east or west points of the horizon.

The second circle shows the *azimuth* of the celestial bodies, or the arc of the horizon between a vertical circle passing through the body and the north or south points of the horizon.

The third circle gives the points of the compass; the fourth, the 12 signs of the zodiac; the fifth, the months and days corresponding to the signs and degrees; and the sixth, the 12 calendar months.

The Brazen Meridian.—74. A circle of brass, passing round the globe at right angles to the equator, is called the Brazen Meridian, and sometimes the Universal Meridian. It is divided into four equal parts, or quadrants, each graduated from 0 to 90°. Two of the quadrants are numbered from the equator to the poles, for showing the latitude; and two from the poles to the equator, enabling us to elevate the poles to any required height.

The Quadrant of Altitude.—75. A thin slip of brass, corresponding in its graduation to the brazen meridian, is called the Quadrant of Altitude. It is numbered from 0 to 90°, to enable us to find the distance between places; and also from 0 to 18°, for finding the duration of twilight.

The Hour Circle.—76. This is a circle, either of brass or marked upon the globe, around the north pole. It is divided into 24 equal parts, representing hours. It enables us to find the difference of time between places, and also the length of the day.

PROBLEMS.

I. To find the latitude and longitude of any place:—

77. Bring the given place to the graduated edge of the brazen meridian; the degree marked over it is the latitude; and the degree on the equator, cut by the same edge of the brazen meridian, is the longitude.

EXERCISES.—78. Find the latitude and longitude of the following places:—

	Latitude.	Longitude.
Halifax.....	<i>Ans.</i> 44° 38' N.;	63° 36' W.
Ottawa.....	45° 25' N.;	75° 45' W.
Charlottetown.....	46° 14' N.;	63° 10' W.
Quebec.....	46° 49' N.;	71° 13' W.
St. John.....	45° 14' N.;	66° 3' W.
London.....	51° 30' N.;	0 Lon.
Paris.....	48° 50' N.;	2° 20' E.
Cairo.....	30° 2' N.;	31° 16' E.
Cape Town.....	33° 56' S.;	18° 28' E.
Calcutta.....	22° 33' N.;	88° 10' E.
Washington; Jerusalem; North Pole; New Orleans; Quito; Melbourne.		

II. The latitude and longitude being given, to find the place:—

79. Find the given meridian on the equator and bring it to the

brazen meridian; find the given latitude on the brazen meridian, and beneath it is the required place.

When the place is found, all others having the same longitude can be found, by tracing along the edge of the brazen meridian from pole to pole; and by turning the globe, all places having the same latitude will pass under the same degree on the brazen meridian.

EXERCISES.—80. Find the places situated as follows:—

- (1.) N. lat. 41° 54' and E. lon. 12° 27'.....*Ans.* Rome.
- (2.) N. lat. 39° and W. lon. 28°..... Azores.
- (3.) S. lat. 55° 58' and W. lon. 67° 11'..... Cape Horn.
- (4.) S. lat. 33° 56' and E. lon. 18° 28'..... Cape Town.

III. To find the distance between two places:—

81. Find the number of degrees between the places with the quadrant of altitude; and multiply by 60 for geographical miles, or by 69½ for English miles.

If the distance is more than 90°, measure it with a thread, and find the number of degrees by applying the thread to the equator.

EXERCISES.—82. Find the distance in English miles between the following places:—

- (1.) Halifax and Montreal.....*Ans.* 490 Eng. miles.
- (2.) Cape Horn and Cape of Good Hope.....4146 "
- (3.) Newfoundland and Ireland.....1830 "
- (4.) Newfoundland and Vancouver Island.....2900 "
- (5.) A ship sails from Halifax to Liverpool in England; thence to New York; thence to Rio Janeiro; thence to Halifax; what is the whole distance?

IV. Two places given and the time at one, to find the time at the other:—

83. Bring the place at which the time is given to the brazen meridian; set the hour circle or index to the given time; turn the globe until the other place is brought to the brazen meridian;—the hour circle will show the required time.

EXERCISES.—84. The following can be verified by calculation:—

- (1.) When it is 12 o'clock noon at London, what is the time at Halifax? *Ans.* 7h. 46m. A.M.
- (2.) When it is 1 o'clock in the afternoon at Alexandria, what time is it at Philadelphia? *Ans.* 6 A.M.
- (3.) When it is 9 o'clock in the morning in Halifax, what is the time at Ottawa? *Ans.* 8h. 12m. A.M.
- (4.) When it is 4 o'clock in the afternoon at London, what is the time at St. Petersburg? *Ans.* 6 P.M.
- (5.) When it is noon at Halifax, what time is it at Melbourne? *Ans.* 1h. 54m. A.M.

V. To find the antipodes, or place directly opposite:—

85. Set the poles of the globe on the horizon; turn the globe until the given place comes to the eastern horizon; observe the number of degrees the place is north or south of the eastern point of the horizon—the antipodes will be the same number of degrees on the opposite side of the western point.

EXERCISES.—86. Find the antipodes of the following places:—

- (1.) London.....*Ans.* Antipodes Island (nearly).
- (2.) Halifax.....41° 38' S. lat.; 116° 24' E. lon.
- (3.) The Bermudas.....The south-west of Australia.
- (4.) Cape Horn.....The east of Lake Baikal.

VI. To rectify the globe for a given place:—

87. Elevate the pole on the same side of the equator, as many degrees above the wooden horizon as are equal to the latitude of the place.

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meridian, it will be in the zenith or highest part of the globe, and the wooden horizon will become the true horizon of the place.

EXERCISES.—88. Rectify the globe for the following places:—
Halifax, St. John, Mexico, Juan Fernandez, St. Helena, Quito, Calcutta.

VII. To illustrate the three positions of the sphere, or the aspect of the heavens at the equator, the poles, and any intermediate place:—

(1.) **At the Equator.**—89. Place the poles in the horizon. It will be seen, by turning the globe, that the equator and parallels always cut the horizon at right angles; that whatever may be the Sun's declination, he will cut the horizon at right angles at sunrise and sunset; and that as the parallels are all divided equally by the horizon, day and night must be equal throughout the year.

This is the aspect to one situated at the Equator, and is called the *right sphere*.
(2.) **At the Pole.**—90. Elevate the north pole 90° . The equator now corresponds with the horizon, and all the parallels are parallel with it. It is manifest that all the celestial bodies north of the equinoctial must be constantly visible and move around in circles, as the Earth revolves, the size of the circle depending on their elevation.

91. The Sun will come above the horizon at the vernal equinox, and will move around the horizon in a kind of spiral, rising higher every day, until he attains his extreme elevation at the summer solstice, when he will descend, until he sets at the autumnal equinox, not to appear again for six months.

Such is the aspect at the North Pole. It is called the parallel sphere.
(3.) **Between the Equator and the Pole.**—92. By taking different positions on the globe, as 10° , 20° , 30° , and rectifying the globe to the several latitudes, we shall find that as we approach the pole, the equator, parallels of latitude, and the Sun at his rising and setting, cut the horizon more obliquely. Any such position is called an *oblique sphere*.

93. To illustrate further, elevate the north pole 45° , the position near the middle of Nova Scotia.

The polar star has here an elevation of 45° , and all the stars within that distance of the polar star will be constantly above the horizon, moving around in circles. It will be seen that the horizon divides the equator equally, and all the parallels unequally, and hence that when the Sun is in the equinoctial, day and night must be equal, and at all other times unequal, also, that from the vernal to the autumnal equinox, when the Sun is in the Northern Hemisphere, the days will be longer than the nights, and during the other half of the year shorter.

94. We can see, too, how twilight is longer in high latitudes than near the Equator, for a place can have twilight only when the Sun is within 18° of the horizon.

VIII. To find the length of a degree of longitude in any given latitude:—

95. With the quadrant of altitude take the distance between any two meridians along the given parallel, and multiply by 4, for geographical miles. To convert geographical to English miles, multiply by 69.1, and divide by 60.

The meridians are laid down upon the globe 15° apart, making 24 in all, one for each hour in the difference of time.

Exercises can be taken from the table, page 18.

IX. To find the Sun's place in the ecliptic on any given day:—

96. Find the day of the month on the wooden horizon, and opposite to it in the circle containing the signs of the zodiac are the sign and degree in which the Sun is situated on that day; find the same sign and degree of the ecliptic on the globe, which is the Sun's place.

EXERCISES.—97. Find the Sun's place on the following days:

- (1.) March 20 *Ans.* Aries
- (2.) May 11 *Ans.* 21st degree of Taurus
- (3.) August 10
- (4.) December 21
- (5.) February 4

X. To find the Sun's declination on any given day:—

98. Find the Sun's place in the ecliptic for the given day, and bring

that place to the brazen meridian;—the degree marked over it is the declination.

By turning the globe, all places to which the Sun is then vertical will pass under that degree.

EXERCISES.—99. Find the Sun's declination on the following days, and the places to which he will then be vertical:—

- (1.) May 10 *Ans.* $17^\circ 30'$
- (2.) June 21 *Ans.* $23^\circ 27'$
- (3.) September 21
- (4.) January 10

XI. To find the hour at which the Sun rises and sets at a given place on a given day:—

100. Rectify the globe for the latitude of the place; find the Sun's place in the ecliptic, and bring it to the brazen meridian. Set the hour circle to 12; turn the globe till the Sun's place comes to the eastern edge of the wooden horizon, and the hour circle will show the time at which the Sun rises. Turn the globe till the Sun's place comes to the western horizon, and the hour circle will show the time of sunset.

Having the time of sunrise and sunset, the length of the day can readily be found. Also, the amplitude of the Sun can be found by observing the point cut in the horizon by the Sun's place in the ecliptic.

EXERCISES.—101. Find the time at which the Sun rises and sets; also the length of the day and the amplitude of the Sun on the 21st of June and the 21st of December, at the following places:—

1. Halifax; 2. London; 3. Canton; 4. Cape Town; 5. Lima; 6. Quebec.
- Ans.* (1.) Rises, 21st June, 4h. 14m.; sets, 7h. 45m.
(2.) Rises, 21st December, 7h. 45m.; sets, 4h. 15m.

XII. To find the duration of twilight at a given place on a given day:—

102. Rectify the globe for the latitude of the place; bring the Sun's place in the ecliptic, on the given day, to the brazen meridian; set the hour circle to 12; fasten the quadrant of altitude upon the brazen meridian, over the given latitude; turn the globe till the Sun's place comes to the western edge of the wooden horizon. The hour circle will now show the time of the Sun's setting, or the beginning of twilight. Continue the motion of the globe westward until the Sun's place coincides with 18° on the quadrant of altitude below the horizon, and the hour circle will then show the time at which twilight ends.

EXERCISES.—103. Find the duration of twilight on the 20th March, 21st June, 23rd September, and 21st December, at the following places:—
1. Nova Scotia, parallel of 45° ; 2. Orkney islands; 3. Norway ($66^\circ 30'$); 4. The Equator.

Ans. The length of twilight at the above places, on 20th March and 23rd September, is—(1.) 1h. 30m.; (2.) 2h. 45m.; (3.) 3h. 15m.; (4.) 1h. 12m.

XIII. To find the length of the longest day and the longest night at any given place in the North Frigid Zone:—

104. Rectify the globe to the latitude of the place; bring the ascending signs of the ecliptic—that is, those going before Cancer—to the north point of the horizon, and observe what degree of the ecliptic is cut by that point; find on the wooden horizon the day and month corresponding to that degree, which will be the commencement of the longest day. Bring the descending signs—those after Cancer—to the north point of the horizon, and observe what degree of the ecliptic is cut by that point; the corresponding day on the wooden horizon will show the time of sunset.

The beginning and end of the longest night can be found, by proceeding in the same manner with the southern point of the horizon.

EXERCISE.—105. Find the length of the longest day at Cape North, $71^\circ 30' N$ lat.
Ans. Seventy-seven days. The sun rises on the 11th of May, and sets on the 30th of July.

PHYSICAL GEOGRAPHY.

EXTERIOR AND INTERIOR.



MOUNT HECLA.

The Earth's Crust.—1. The outer portion of the Earth is called the *crust*. Near the surface we usually find loose materials, called soil, earths, gravel, and stones. On digging through these we come to solid rock.

Miners have penetrated into the Earth's crust nearly 4000 feet. The greatest depth reached below the level of the sea is about 2000 feet, in Prussia.

2. The materials forming the Earth's crust are divided into *Simple* and *Compound*. All compound bodies can be separated into two or more simple bodies. *Gold* is a simple substance, because it cannot be resolved into elementary parts. *Water* is a compound substance, be-

cause it can be separated into the elements *oxygen* and *hydrogen*. The number of elements, or simple substances, of which everything is composed, so far as discovery has determined, is about sixty. They are sometimes found in their simple state; but more frequently two or more are combined, thus forming the material of which everything mineral, vegetable, and animal is composed.

3. This material brought under the power of vegetable or animal life is called *Organic Matter*. It seems strange that the beautiful and fragrant rose, and even our bodies, should be identical in substance with the earths and gases. Such is the fact. The same Divine Power that called all things out of nothing is still working in that mysterious principle we call life, enabling each living being to select its appropriate food, and transform it to its own kind and shape.

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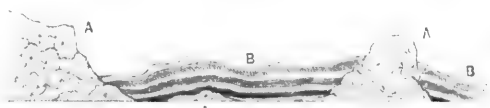
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4. The loose earth called soil is formed from decayed vegetable and animal matter, mingled with particles of rocks broken up by rain, frost, and other atmospheric influences. Soils are of three principal kinds, according to the prevailing rock in their composition—*Silicious*, or sandy; *Calcareous*, or limy; and *Argillaceous*, or clayey.

5. Rocks belong to two great classes. If we examine a deep railway cutting or a cliff, we shall find the rock either arranged in layers or

Fig. 11.



a a UNSTRATIFIED ROCKS.

b b STRATIFIED ROCKS.

strata one above another, or in irregular masses. The first kind is called *Stratified*, the second *Unstratified*.

6. When loose earth is carried by streams into lakes or seas, it settles to the bottom in horizontal layers or strata, and, by pressure, becomes solid rock. It is supposed that the stratified rocks have been formed in a similar manner; hence they are also called *Aqueous* and *Sedimentary*. Remains of animals and plants are often found imbedded in these rocks.

In volcanoes vast masses of melted matter called *lava* are thrown out. When the lava cools, it assumes the unstratified form. Hence unstratified rocks are supposed to have been formed by the agency of fire, and are sometimes called *Igneous* rocks. They contain no fossils.

7. Aqueous rocks usually occupy the surface, sometimes in horizontal layers, but more frequently tilted up at various angles with the horizon. Sometimes, particularly in mountain ranges, igneous rocks are found thrust up through the aqueous. The North Mountain in Nova Scotia, formed of *trap rock*, is an example.

The Interior.—8. We cannot judge with absolute certainty respecting the condition of the interior of the Earth. Various facts tend to establish the opinion that it is in a highly heated liquid or gaseous state.

In many places on the Earth's surface there are volcanoes, or *burning mountains*, which send out flame, smoke, and melted lava. In other places there are hot springs, as the *geysers* of Iceland, from which issue boiling water and steam. It is found, on digging into the Earth, that, after the first 80 or 90 feet, the temperature increases regularly by one degree, Fahrenheit, for every 60 feet of descent. At this rate, the heat at the depth of 40 or 50 miles, would be sufficient to melt the hardest substances.

The Terraqueous Globe.—9. If we could rise a few miles above the Earth and look down upon it, one of the first aspects to catch the eye would be the land and water surface. A glance at the hemispheres will show that about three-fourths the surface are covered with water, and one-fourth with land; also that about three-fourths the land are on the north of the Equator. Further, by reference to the globe, it will be seen that the Earth's surface may be so divided that nearly all the land will be in one hemisphere, of which London will be nearly the centre.

EXERCISE ON THE GLOBE.—Bring London to the brazen meridian, and elevate the north pole equal to the latitude. Most of the land will now be found in the upper hemisphere.

10. The boundary line between the land and the water—

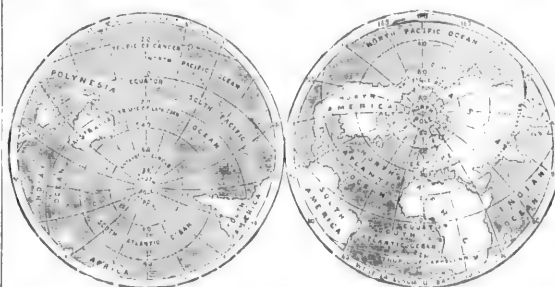


Fig. 12.

LAND AND WATER HEMISPHERES.

that is, the *shore line*, or *coast line*—is very irregular, the land jutting out into the sea, and the sea running up far into the land.

The coast line is dependent on the height of the land compared with the sea-level,—elevations above that level causing a land surface, and depressions a water surface. The coast line in many places is undergoing changes, according to the qualities of the land,—the softer parts wearing away by the ever active and intruding sea, the more durable standing out in sharp points.

11. This commingling of the ocean with the land is one of the most important points to be noted in the physical features of a country. The sea has a more equal temperature than the land, and thus modifies the extremes of heat and cold in those countries which it penetrates. But the principal benefit arising from the breaking up of the land by inlets of the sea, is the ease thus afforded for intercommunication between different countries. Isolation is always a barrier to prosperity and civilization, and in no way is intercourse so easy and perfect as by water.

THE LAND.

Divisions.—12. The land, comprising about one-fourth the Earth's surface, is 2768 times larger than Nova Scotia, or equals a square of 7180 miles.

The principal part of this area is found in two great bodies called *Continents*, the *Western Continent* and the *Eastern Continent*. The Eastern Continent is about twice as large as the Western.

There is also a large number of smaller portions of land, surrounded by water, which are called *Islands*. Australia is by far the largest island, and is sometimes called a continent.

The Continents.—13. The Western Continent has its greatest length north and south, and comprises two divisions,—*North America* and *South America*, which are connected by a narrow neck of land called the *Isthmus of Panama*.

The Eastern Continent stretches furthest east and west, and comprises three divisions—*Europe*, *Asia*, and *Africa*.

Including Australia, we have thus six great divisions of land, each of which is sometimes called a continent.

A body of land has been discovered towards the South Pole, which is called the *Antarctic Continent*. Its extent is not known.

14. By reference to the map, several interesting features may be noted respecting the continents :—

(1.) They spread out in broad masses towards the north, approaching near to each other and terminating abruptly near the parallel of 70°; whilst in the south, they taper to points at Cape Horn and the Cape of Good Hope, which are far apart.

(2.) The irregularities of the east coast of America conform generally to those of the west coast of the Eastern Continent, the projections of the one corresponding to the indentations of the other.

(3.) Both continents have their greatest extent east and west near the parallel of 50° north latitude, and their greatest extent north and south nearly corresponds with meridians.

(4.) The peninsulas, with the exception of Yucatan America and Jutland in Europe, project towards the south.

(5.) South America, Africa, and Australia, on the south, have much greater regularity of coast line than North America, Europe, and Asia, on the north.

(6.) Europe and Asia each terminates in three peninsulas on the south ;—Spain, Italy, and Greco, in the one ; Arabia, Hindostan, and Further India, in the other.

Islands.—15. Islands differ from continents in being of smaller size. They usually occur in groups near the continents, as the West Indies and the British Isles. It is supposed that many of such islands were once connected with the mainland.

Islands are very numerous in the Pacific and Indian Oceans. The groups in these oceans are collectively called *Oceanias*.

The following are the twelve largest islands, not including Australia :—

Greenland, Borneo, Papua, Madagascar, Sumatra, New Zealand, Great Britain, Celebes, Jesso, Java, Saghalien.

16. Many islands are of volcanic origin. They are usually elevated, and some of them still contain active volcanoes. New islands of this kind are occasionally thrown up in the midst of the sea. One appeared in 1783 on the coast of Iceland ; and one in 1831 on the coast of Sicily. Both these islands subsequently disappeared.

17. Many islands, particularly in the tropical parts of the Pacific, owe their origin to the coral insect. These little creatures secrete lime and other substances from the water, which they form into rock. They cannot live in deep water or on dry land. They therefore commence operations on rocks and shoals within two hundred feet of the surface, and cease on reaching the level of the sea. Coralline islands are sometimes further elevated by volcanic force, but they are usually low.

18. The islands of the Pacific often present a highly picturesque appearance. Some of them, as Whitsunday, consist of a ring of low land with a lagoon in the centre ; others, like Tahiti, are surrounded by a lagoon which is separated from the ocean by a coral reef.

Surface.—19. The land is exceedingly varied in respect to elevation above the sea. Sometimes the ascent from the water's edge is gentle ; in other places, the shore line is precipitous, varying in height from a few feet to several hundred feet. The highest land is usually in the interior. Tracts of

land are called *plains, plateaus, hills, mountains, and valleys* according to their elevation.

Although the land is generally higher than the level of the sea, there are districts where it is otherwise. The most remarkable depressions are in Western Asia, near the Caspian and Dead Seas. The surface of the Dead Sea is 1312 feet below the ocean level.

20. There are many extensive and comparatively level tracts, varying in elevation from a few feet to three miles above the sea. When under 500 or 600 feet high, they are called *plains*, when more elevated, *plateaus* or *table-lands*. Plateaus are often rainless deserts, destitute of vegetation. A great desert extends nearly across the Eastern Continent from west to east, passing through Northern Africa and Central Asia.

The most extensive plains in the Western Continent are in the middle of North America from the Arctic Ocean to the Gulf of Mexico, and on the east of South America ; the most extensive in the Eastern Continent are in the north of Europe and Asia.

21. The mountain ranges, with few exceptions, run in the direction of the greatest length of the land. They are also frequently on one side of the country, presenting a long and gentle slope towards the more distant ocean and an abrupt descent to the other. Observe the Andes of South America.

22. Lofty mountains are found in all the great divisions ; but those of Asia surpass the others in extreme height. Mount Everest, a peak of the Himalayas, 29,000 feet, is the highest known land.

The mountains of America are more easily traced than those of the Eastern Continent.

23. Mountains do not usually consist of single narrow ridges, but are more frequently of great breadth, sometimes comprising two or more parallel ranges separated by valleys or plateaus.

24. The greater part of the Earth's surface has but a moderate elevation, so that, notwithstanding the great heights of certain parts, it has been computed that if the land were reduced to a uniform level, it would not exceed 1000 feet above the sea.

25. Mountains and hills are of great importance in promoting the drainage of a country, and in supplying it with perennial streams. The rain which falls upon their summits re-appears in springs along their sides, and instead of standing in pools and marshes, exhaling poisonous miasma, it flows down the slopes in brooks and rivers.

26. Mountain ranges generally form the parting ground or *water-shed* between streams flowing in opposite directions. The Rocky Mountains and Andes are water-sheds.

Some important water-sheds are quite low ridges or mere swells in the surface. The sources of the Mississippi and Volga are examples. Streams often make their way through mountain ranges by deep gorges.

27. On mountains and table-lands the cold rapidly increases with the elevation.

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It is a singular illustration of the adaptation of the Earth to its inhabitants, that highlands occur most frequently where the sun's rays are most vertical. If the northern part of the continents were table-lands, they would be uninhabitable through intense cold.

23. Mountains were probably formed by upheavals caused by the expanding power of the great heat in the interior of the Earth. The same cause is still at work, gradually producing similar results.

In various parts of the Earth the subterranean fires have broken through the crust in volcanoes, where vast quantities of lava are poured out. About a century ago, the volcano of Jorullo burst forth from a plateau of Mexico and in a single night raised a mountain over 4000 feet high.

In 1822, a portion of the coast of Chili was elevated three feet. A portion of Sweden, along the Baltic, is being gradually elevated at the rate of a foot in twenty-five years.

Volcanoes are usually near the sea, either on islands or maritime parts of the continents. Some of the most noted volcanoes are *Cotopaxi*, in South America; *Etna*, in Sicily; and *Hecla*, in Iceland.

20. Earthquakes are movements of the ground, varying in degree from slight tremors to the most violent concussions. They are most common in volcanic regions, and are supposed to be occasioned by the same causes as volcanoes. Sometimes the ground rises and falls, like the waves of the sea; and sometimes it has a circular motion, like that caused by throwing a stone into still water.

In the great earthquake of 1757, which lasted about six minutes, almost every building in Lisbon was laid in ruins, and 60,000 persons lost their lives. Caracas was destroyed in 1812, and 10,000 persons were killed in less than a minute.

Rivers.—30. If all the rain which falls upon the Earth were to run off immediately along the surface, the lowlands would in the wet season be inundated, and in seasons of drought we would have no water—neither streams, springs, nor wells. A large portion of the rain and melted snow sinks into the ground, until being arrested in its course by rocks or clay, it makes its way to the surface again in the form of springs. Springs give rise to brooks and are the primary sources of rivers.

Some rivers have their origin in lakes; others are formed by the melting of snow and ice on high mountains.

Some of the leading features to be noted respecting rivers are their *course*, *length*, *volume*, and *velocity*.

31. The *course* of a river depends on the slope of the land. Besides the principal slope towards the sea, giving direction to the main stream, subordinate slopes on each side strike inwards towards the main stream, controlling the course of the tributaries. Hence the territory drained by a river and its tributaries appears as if scooped out, and is called the *river basin*.

All the basins inclined towards any particular ocean constitute a *river system*. A ridge of land separating different basins or systems is called a *water-shed*. (See 26.)

32. On the water-shed which parts the waters of the Mississippi from those of the St. Lawrence there are said to be several instances of buildings so situated that the rain which falls on one side of the roof runs into one basin, and that which falls on the opposite side into the other basin.

33. The *length* of a river depends upon the distance of the water-shed from the sea, and upon the windings of the river.

The *volume* or size of a river is regulated by the extent of its basin and the humidity of the country within the limits of the basin. The

volume often varies greatly at different seasons of the year. This is very marked in tropical countries. The Nile is one of the most remarkable rivers in this respect. The *Amazon*, in South America, is the largest river in the world. The *Mississippi* and the *St. Lawrence*, in North America; the *Yang-tse-Kiang*, *Hoang Ho*, *Amoor*, *Obi*, *Yenisei*, and *Lena*, in Asia; the *Nile*, in Africa; and the *Volga* and *Danube*, in Europe, are great rivers. All except the Danube are over 2000 miles in length.

34. The *velocity* of a river depends on the slope along which it flows, on the depth of water, and its windings. A very deep stream will flow rapidly, impelled by its own pressure, where there is little descent. The *Amazon* is said to have a fall of only 12 feet in the last 700 miles of its course; and the *Volga* to have a fall of only 633 feet through its whole length.

Frequent windings retard the velocity. The upper course of a river is usually the most rapid.

35. Brooks and rivers are busy agents in changing the face of nature, ever tearing down and building up. The torrent rushes down the mountain-side, wearing deep ravines; the sluggish stream of the plain leaves the debris along its banks or bears it onward to form *deltas* at its mouth.

Brooks and rivers are of great use to man. They supply him with pure water, they fertilize his fields, furnish a motive power for machinery, and form a highway for the traveller and the merchant. The most fruitful soil is found along the margins of rivers; here are situated the chief inland towns, and here are the most busy scenes of human industry.

Lakes.—36. Lakes are usually fresh water collected in basin-like hollows. They are divided into four classes:—

- (1.) *Those which neither receive nor send out streams.*
- (2.) *Those which send out streams but receive none.*
- (3.) *Those which receive streams, but have no visible outlet.*
- (4.) *Those which both receive and send out streams.*

37. Lakes of the first class are often found in the craters of extinct volcanoes; they, as well as those of the second class, are usually small and derive their supply from springs.

38. Lakes of the third class discharge their surplus waters by evaporation. They are all salt except *Lake Tchad*, in Africa. Such lakes are most numerous in Asia. The *Caspian*, *Aral*, and *Dead Seas*, and *Great Salt Lake* of North America, belong to this class.

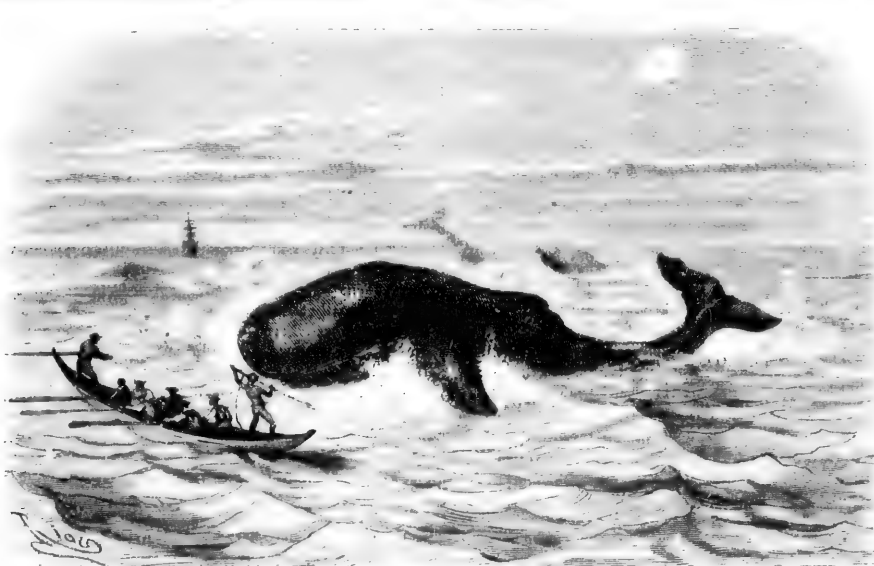
39. Lakes of the fourth class are the most numerous, occurring along the courses of rivers, particularly in northern latitudes. The great lakes of North America and of Central Africa are the largest fresh-water lakes.

40. The *Dead Sea*, 1312 feet below the sea level, is the lowest lake known; *Sir-i-kol*, in Central Asia, 15,600 feet above the sea, is the most elevated. *Titicaca*, in South America, has an elevation of 12,850 feet.

THE SEA.

Extent.—41. The sea covers about three-fourths of the Earth's surface. Its area is computed to be equal to a square of over 12,000 miles.

Depth.—42. The bed of the sea has all the irregularities of surface which we see on the land. Hence the depth varies greatly in different parts. It is supposed that the greatest depths are not less than eight or nine miles. Re-



WHALE FISHING.

liable measurements have been made to the depth of about five miles.

The pressure on the lower waters of the sea is very great. If a corked bottle be let down empty, the cork will be forced in.

Contents.—43. Sea water contains several mineral substances, as common salt, lime, magnesium, potassium, and iodine.

Some of these substances are extracted from the water, in large quantities, by marine animals, in the formation of shells and coral. New supplies are contributed by the rivers, so that the composition of sea water remains unchanged.

Temperature.—44. The sea maintains a more uniform temperature than the land.

The waters of the ocean are ever changing place—flowing back and forth between the polar and equatorial regions, so that the same water is not exposed for a long time to intense heat or cold. Also, in warm regions evaporation is very copious, by which the accumulation of heat is prevented; and in cold regions water parts with its heat less readily than land.

Divisions.—45. Although the ocean forms one great connected body, it is usual to consider it as separated into five principal divisions:—

The Atlantic, Pacific, Indian, Arctic, and Antarctic Oceans.

Branches of these oceans, extending into the land, take various names, as *seas, bays, gulfs, channels, and straits.*

46. **The Atlantic** lies on the east of America, which it separates from Europe and Africa. The Polar Circles are its northern and southern limits, and the Equator divides it into *North* and *South Atlantic*.

The principal branches of the Atlantic are, on the American side, *Davis' Strait, Baffin's Bay, Hudson's Bay and Strait, the Gulf of St. Lawrence, Bay of Fundy, Gulf of Mexico, and the Caribbean Sea*; on the eastern side, the *North Sea, Baltic Sea, English Channel, Bay of Biscay, Mediterranean Sea, and the Gulf of Guine.*

47. The Atlantic varies in breadth from 900 to 4000 miles. It is of great importance in a commercial point of view, forming the great highway between America and Europe. A submarine plateau in the North Atlantic forms the bed of the telegraph cables between Newfoundland and Ireland.

48. **The Pacific** is on the west of America, separating it from Asia and Australia, and it extends from Behring's Strait, on the north, to the Antarctic Circle. It is divided into *North* and *South Pacific* by the Equator.

The chief branches of the Pacific are the *Gulf of California*, on the American side; *Behring Strait, the Sea of Kamchatka, Sea of Okhotsk, Sea of Japan, Yellow Sea, and China Sea*, on the coast of Asia.

Behring Strait, connecting the Pacific with the Arctic Ocean, is about thirty-six miles wide.

49. The extreme breadth of the Pacific is about 10,000 miles, or nearly half the circumference of the Earth. It is noted for the number of its islands. This great ocean was unknown to Europeans until 1513, when it was discovered by a Spaniard named Balboa, who crossed the Isthmus of Panama. The part of the ocean seen from the mountains of the Isthmus lay on the south, from which the Pacific received the name of the South Sea.

Magellan, who crossed this ocean in 1521, called it the Pacific, because he encountered no storms on his voyage.

50. **The Indian Ocean** lies south of Asia, having Africa on the west and Australia on the east. The Antarctic Circle is the southern limit.

Its branches are *Mozambique Channel, Red Sea, Arabian Sea, Persian Gulf, and the Bay of Bengal.*

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51. The Arctic or Northern Ocean is on the north of America, Europe, and Asia, within the Arctic Circle. Its principal branches in the Eastern Hemisphere are the *White Sea*, *Sea of Kara*, and the *Gulf of Obi*. It is much broken by islands on the north of America.

Throughout a long winter this ocean is covered with ice of great thickness, which breaks up in the spring and drifts down in vast masses, called *icebergs*, into the North Atlantic.

52. A navigable route from the Atlantic to the Pacific, through the Arctic Ocean, was long sought with great ardour. The most memorable and disastrous expedition for the discovery of the *North-West Passage*, as the route on the north of America was called, was that commanded by Sir John Franklin, who sailed from England in 1845 with two ships and 138 men. None of the party ever returned. One of the crew was a Nova Scotian.

53. Whilst in the search for Franklin, Captain McClure, entering by Behring Strait, made the whole passage on the north of America to the Atlantic; but he was compelled to leave his vessel frozen fast, and to go part of the way over the ice.

Navigators have often made unsuccessful attempts to reach the North Pole. The nearest point yet reached is $82^{\circ} 45'$, by Captain Parry.

54. The Antarctic Ocean is situated within the Antarctic Circle. The cold is even more severe than in the Arctic, and the ice extends further from the pole.

The highest latitude reached in this direction is $78^{\circ} 4'$, by Sir James Ross.

In 1841, Sir James Ross discovered an extensive tract of land in the Antarctic Ocean, to which he gave the name of Victoria Land. He also discovered a lofty volcano, 12,400 feet in height, which he called Mount Erebus.

The Arctic and Antarctic Oceans are the favourite resort of whales, in the capture of which many vessels are engaged.

Motions of the Sea.—55. The waters of the ocean have three kinds of movements, arising from distinct causes—*waves*, *tides*, and *currents*. By the unceasing agitation of its waters the ocean is preserved from putrefaction.

Waves.—56. Waves are agitations of the surface water, usually occasioned by the wind. Except in shallow water, and when the wind is very strong, there is no onward flow of water; but each wave communicates its motion to the next.

57. It is thought that even by the most violent winds the water is not disturbed to a greater depth than 200 feet.

The highest waves are found in the Atlantic, off the Cape of Good Hope, where, from the hollow or *trough* of the sea to the *crest* of the wave, the height is sometimes forty feet.

The rise of waves is obstructed by ice-cakes or sea-weed floating on the water, and by dense fogs. Throwing oil upon the surface will also prevent the rise of waves.

Tides.—58. The ocean is ever changing its level. The waters rise for about six hours, and then fall for the same time. This alternate rising and falling of the ocean is called *the tide*. When the water is rising we call it *flood tide*; when it is falling, *ebb tide*.

59. In the open ocean the height of the tide—that is, the difference of level between *low water* and *high water*—is from three to six feet; but when the water is forced up narrow bays, the tide is much higher. In the Bristol Channel the height is from forty to fifty feet, and in the head waters of the Bay of Fundy sixty or seventy feet. In inland seas like the Caspian, Black Sea, and Baltic, there are no tides.

60. The tides are caused principally by the attraction of the moon.

They are also considerably modified by the attraction of the sun. This body being more remote, is thought to exert only about one-third the influence of the moon.

61. Water having but little cohesion among its particles is easily displaced by any force acting upon it; and as the attraction is strongest directly beneath the moon, or where the moon is vertical, the water is drawn to that meridian from either side to the distance of 90° . The whole body of the solid earth is also drawn towards the moon, whilst the waters on the opposite side remain behind, forming another convex ridge.* Thus there are two meridians 180° apart, at which it is high water simultaneously, and other two intermediate, and the same distance from each other, at which it is low water. This is shown in the diagram. It is high water at *a* and *b*, low water at *c* and *d*.



Fig. 13.
SPRING TIDES.

Now, as the Earth turns upon its axis from west to east, the two convex ridges of water, represented at *a* and *b*, move round the Earth as immense tidal waves from east to west, bringing high water to all places twice every day.

62. If the moon were stationary, the time between one high water and another would be exactly twelve hours; but in consequence of the moon's progress in its orbit, it is a little later each day in coming to any particular meridian; hence the time between two consecutive tides is about twelve and a half hours.

The greatest elevation of the tide is a little after the moon has passed the meridian.

63. Sometimes the sun's influence is combined with the moon's, when the two bodies are said to be in *conjunction*. This occurs at new moon, when the sun and moon are on the same side of the Earth, as shown in figure 12; it also occurs at full moon, when they are on opposite sides of the Earth. At such times the tides are very high, and are called *spring tides*.

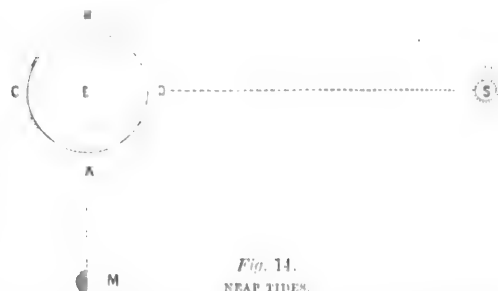


Fig. 14.
NEAP TIDES.

At the moon's quarters the sun and moon act at right angles, as shown in this diagram. They are then said to be in *opposition*, as the sun partially counteracts the moon's influence. It is high water at *a* and *b*, but the tides are low, and are called *neap tides*.

* The above is the common explanation of the opposite tide, but it is open to objections.

64. The foregoing theory of the tides is on the supposition that the Earth's surface is wholly covered with water. It requires considerable modification, in consequence of the interference of the land.

It will be seen, by reference to the map of Nova Scotia, that Halifax Harbour and the mouth of the Shubenacadie are nearly on the same meridian. It might be supposed that they would have high water at the same time. But it must be remembered that the tidal wave passes around the Earth from east to west. The Bay of Fundy opens to the ocean on the west, and the wave cannot flow in until it has passed the extreme west of the province. Its motion up the Bay is then from west to east.

As the Bay becomes narrow near its head, the water is crowded; the tide rises higher, and flows more rapidly.

Currents.—65. Broad currents, like vast rivers, are ever flowing through the sea. An exchange of waters is thus kept up between the Equator and the poles, and among the different oceans. A current flowing from the polar towards the equatorial regions acquires a westerly tendency, and one flowing in the opposite direction becomes more and more easterly as it advances.

66. Navigators are in the habit of throwing bottles into the sea, containing slips of paper stating where they were cast out, and when. The bottles course along with the current. Every navigator who falls in with them notes the place and time on the paper, and sends them on their voyage.

The products of the West Indies are often cast upon the shores of the Azores and Ireland; the products of China are carried to the Aleutian Isles; and drift-wood is carried from Northern Europe to Iceland.

These are some of the proofs of the existence and direction of ocean currents.

67. The following are the principal Currents:—

(1.) *Humboldt's Current*, flowing north-easterly from the Antarctic Ocean into the Pacific, along the west coast of South America.

(2.) *The Equatorial Current of the Pacific*, flowing westerly from the west coast of America to Asia and Australia.

(3.) *The Mozambique Current*, which is properly a continuation of the preceding across the Indian Ocean to the east coast of Africa, where it flows southerly through Mozambique Channel to the Cape of Good Hope.

(4.) *The Equatorial Current of the Atlantic*, flowing from the Antarctic Ocean to the west coast of Africa, and thence westerly to South America.

(5.) *The Gulf Stream*, flowing north-easterly from the Gulf of Mexico to Northern Europe.

(6.) *The Polar Current*, setting down from the coasts of Greenland, southerly between the Gulf Stream and the coast of North America.

(7.) *The Japan Current*, flowing north-easterly across the Pacific from the Indian Ocean to the north-west of North America.

(8.) *The Okhotsk Current*, flowing southerly along the east coast of Asia inside the Japan Current.

68. A current flows from the Atlantic into the Mediterranean; another from the Indian Ocean into the Red Sea. There are many other currents, some constant, others variable, in different parts of the ocean. Also, it has been shown that where surface currents flow in one direction, counter currents flow in the opposite direction. Thus an under current flows from the Mediterranean to the Atlantic.

69. The Gulf Stream is the most remarkable and important of all

the currents. An immense volume of water, eight or ten degrees warmer than the surrounding ocean, passes through Florida Strait with a velocity of four miles an hour. As it proceeds northerly it becomes broader, but diminishes in velocity and temperature. Near Newfoundland it turns to the east, and, whilst crossing the Atlantic, it divides into two branches—one passing northerly to the British Islands, the other southerly along the coast of Northern Africa.

70. The triangular space between the Azores, Canaries, and Cape Verde Islands, forms the centre of a great whirl of waters. It is called the *Sargasso Sea*, and is covered with matted sea-weed, which greatly obstructs navigation.

71. The effects of ocean currents are very important. They speed the navigator in his distant voyages, and they exercise a marked influence on climate.

The Gulf Stream warms the coasts of Northern Europe, and the Japan Current has a similar effect on the western shores of North America. Humboldt's Current bathes the hot shores of Chili with the cold waters of the Antarctic Ocean. The Polar Current from the Arctic is less genial on the eastern coast of British America, retarding, with its chilly north-east winds, the advance of spring.

72. All the causes on which ocean currents depend are not well known. It is probable that the two principal causes are the Earth's rotation on its axis, and the great heat of the Torrid Zone.

The rotation of the Earth gives rise to the centrifugal force, in obedience to which the waters rush to that part which is furthest from the centre of motion—that is, the Equator. This tendency of the waters towards the Equator is increased by the excessive evaporation within the tropics. We thus have currents flowing from the Arctic and Antarctic Oceans, particularly from the latter, which has the most complete communication with the other oceans.

73. The water from high latitudes cannot at once acquire the more rapid rotatory motion from west to east which it finds on approaching the Equator. It accordingly becomes more and more westerly in its tendency, and finally flows towards the west in the Equatorial Currents.

74. The interference of the land furnishes a modifying influence, by which the direction of a current is often changed. Thus the Equatorial Currents, striking against the east side of the continents, are arrested and changed in their course. Being now turned towards the poles, the current has a more rapid rotatory motion than the parts of the Earth to which it is flowing; it consequently assumes more and more an easterly course, as we see in the Gulf Stream and the Japan Current.

Long-continued high winds sometimes exercise an influence on currents.

(For various interesting facts and principles, see Maury's "Physical Geography of the Sea.")

THE ATMOSPHERE.

Extent.—75. The atmosphere, or air which we breathe, surrounds the Earth on all sides to the height of forty-five or fifty miles. It moves with the Earth in its rotation on its axis and in its revolution round the Sun.

Composition.—76. The atmosphere consists principally of a mixture of two gases—*nitrogen* and *oxygen*—in the proportion of 79 of nitrogen and 21 of oxygen in every 100 parts. It also contains a small fraction of carbonic acid gas, and a variable quantity of watery vapour.

Properties.—77. Air has so little cohesion among its

particles that it is easily displaced, and we move about in it without feeling the slightest obstruction.

Except when laden with condensed vapour, the atmosphere is perfectly transparent, so that objects are seen through it with the greatest clearness. It is not, however, quite colourless; for when we look through a large volume of it, as upwards into the sky, or at a distant mountain, it appears of a blue tint.

Air is exceedingly *elastic*. If we nearly exhaust it from a closed vessel, the little that remains will expand and fill the whole space.

78. The air has *weight*. Its pressure at the level of the sea is nearly 15 pounds to the square inch. A column of air of the full height of the atmosphere is equal in weight to a column of water of equal base 34 feet high, or to a column of mercury 30 inches in height.

79. By means of atmospheric pressure water rises in the pump to the height of about 34 feet; also, the mercury is sustained in the tube of the barometer to the height of about 30 inches. The pressure varies within certain narrow limits, according to the temperature, humidity, and electrical state of the air, causing a corresponding variation in the height of the mercury in the barometer. This instrument, therefore, becomes an index of the condition of the atmosphere.

80. As we rise above the sea-level, the density and pressure of the air rapidly diminish. At the height of 20,000 feet, the pressure is reduced less than half. Thus the barometer is used for determining the elevation of mountains. In consequence of the diminished pressure, water, mercury, and other liquids, boil at a lower temperature on mountains.

The density and pressure of the atmosphere are essential to animal life. On high mountains breathing is difficult, and the blood bursts from nose, eyes, and ears.

81. The oxygen of the air is the great supporter of combustion; hence where there is a scanty supply of air, the fire goes out or burns feebly. Air is also essential to animal and vegetable life. The Creator has wonderfully provided that the two great classes of organic existences shall each give to the atmosphere greater adaptation to the wants of the other. Carbonic acid, which is highly poisonous to animal life, and is copiously thrown from the lungs in breathing, is absorbed by the plant as the most nutritious food.

Reflection.—82. Objects become visible by the light which passes from them to the eye. Some bodies, like the sun, are luminous, emitting light of their own; others are dark, and are seen by reflecting or throwing off the light which they receive from some luminous body.

The atmosphere reflects the light of the sun, and thus diffuses the rays over the Earth. Were it not for this power of the atmosphere the sun would appear as a bright spot in the heavens, whilst all else would be as dark as night.

83. Twilight is also dependent on the same cause. When the sun is not more than 18° below the horizon, the rays of light which strike the higher regions of the atmosphere are thence reflected to the Earth. As more rays thus find their way to the Earth when the sun is near the horizon, day and night come on gradually. (*See Earth as a Planet, 94.*)

Refraction.—84. If we hold a straight stick obliquely in a tub of water, it appears broken or bent at the surface of the water.

Place a coin in an empty basin, and stand back until the coin is hidden by the edge of the basin; now pour in water, and although the

eye and the coin have not changed their position, the latter will become visible.

These experiments illustrate the refraction of light. The rays reflected from the stick and the coin, on passing obliquely from the water to the less dense air, are bent, so that the object appears more elevated than its real position.

85. The rays of the sun, in their passage through the atmosphere, are constantly passing from a rarer to a denser medium. Consequently, when the rays are oblique, which is always the case beyond the tropics, they are so refracted as to cause the sun to appear more elevated than its real position. Thus, when the sun's lower edge appears just on the verge of the horizon, the whole body of the sun is actually below, and would be invisible but for this property of the atmosphere.

Temperature.—86. The air receives but little heat from the sun's rays on their passage through it, but is chiefly heated by contact with the Earth, or by the radiation of heat from the land and water. The temperature rapidly diminishes as we rise above the sea-level.

As a general law, temperature diminishes 1° for every 300 or 350 feet of elevation. At the height of 16,000 or 17,000 feet, mountains in the hottest parts of the Earth are covered with perpetual snow.

Vapour.—87. Water, in the form of invisible vapour, is constantly rising from the Earth into the atmosphere.

In a hot day we sometimes sprinkle the floor with water to cool the room. In a short time the water has all disappeared, for its particles absorbed the heat, expanded, and floated away.

88. Copious evaporation depends on three conditions—a wet surface, strong heat, and wind to bear away the air already saturated with vapour. Hence most vapour rises from the sea within the tropics. As the water-surface is greatest south of the Equator, we may conclude that most vapour will be formed in that hemisphere.

Very little watery vapour rises higher than five or six miles above the sea-level.

WINDS.

Origin.—89. The air, owing to its lightness and elasticity, is easily set in motion. Winds are currents of air. They are occasioned chiefly by heat.

If the door be set open between two adjoining rooms, one of which is warmer than the other, a current of cold air will be found near the bottom of the door, flowing from the cold room into the warm; whilst near the top of the door a warm current will flow in the opposite direction. A lighted taper held in the door-way will show the direction of the currents.

In like manner, there are currents and counter-currents in the atmosphere. We often see clouds near the Earth moving in one direction, and others more elevated moving in the opposite direction.

Different kinds of Winds.—90. Winds are usually divided into three classes—*permanent*, *periodical*, and *variable*. Permanent winds blow constantly from the same direction: from their benefits to navigation, they are usually called *trade winds*. Periodical winds blow from the same direction during certain times of the year or day, as the *monsoons* and *land and sea breezes*. Variable winds shift at irregular intervals.

Trade Winds.—91. The trade winds prevail over the greater portion of the Torrid Zone, extending a few degrees each side in the Temperate Zones. They are more regular on the ocean than on the land. On the north of the Equator they blow from the north-east, and on the south from the south-east.

92. Near the Equator, between the north-east and south-east trade winds, there is a *belt of calms*; and there are also two other similar belts bordering the trade winds on the north and south. These belts are sometimes disturbed by variable winds and violent storms. They also shift a few degrees north and south as the sun advances in either direction.

93. The trade winds depend on causes similar to those which occasion and regulate ocean currents.

The air in the Torrid Zone is more highly heated than elsewhere. Currents set in from the north and south, which, in consequence of the Earth's rotation, become north-east and south-east winds.

94. In the region of equatorial calms, the currents from the north and south, now greatly rarified, ascend and become upper currents in the opposite hemispheres. Near the 30th parallels, north and south, these upper currents descend and blow over the temperate regions as surface currents. But as they are now moving towards the poles, their rotatory motion is more rapid than the parts of the Earth where they are blowing, and they become south-west winds in the Northern Hemisphere, and north-west in the Southern. These are the more prevalent winds in the Temperate Zones. Their regularity is much obstructed by electricity, ocean-currents, ice-fields, and other causes.

95. **Monsoons** are caused by a local disturbance of the trade winds. In India, when the sun is south of the Equator, the monsoon is the regular north-east trade wind; but when the sun has passed to the north, and the air over the land becomes more highly heated than that over the sea, a south wind sets in from the Indian Ocean, which, as it travels north, becomes the south-west monsoon. Each monsoon continues about five months. Variable winds and violent storms occur at the change.

Land and Sea Breezes.—96. Along the coast, particularly in tropical countries, about the middle of the forenoon, the air over the land becomes more highly heated than that over the sea, accordingly a sea-breeze sets in towards the land; in the evening, the land cools most rapidly, and a land breeze blows towards the sea.

Modifying Causes.—97. Winds are greatly modified by the region over which they blow. Those that have crossed large bodies of water are humid; those that have crossed a continent or a high mountain are dry; those that have come over frozen lands or seas of ice are cold; and those from burning deserts are hot and dry.

The deserts of Africa and Asia give rise to hot, suffocating winds—as the *Simoom* of Arabia, the *Khamsin* of Egypt, and the *Harmattan* of the west coast of Africa.

DEW, CLOUDS, RAIN, AND SNOW.

Dew.—98. A cold pitcher or bottle placed in a warm room is soon covered with drops of water. The air of the

room contains invisible vapour, which is condensed by contact with the cold surface of the pitcher or bottle. The formation of dew is somewhat similar.

After sun-down the Earth cools rapidly by radiation, the air next the Earth is cooled by contact with cold surfaces, and as its capacity to hold moisture diminishes with its temperature, it deposits a portion of its vapour in the form of dew.

99. Dew is most copious when the atmosphere is most fully saturated with vapour, and when circumstances are most favourable for the radiation of heat during the night. Hence there will be most dew in a clear calm night after a hot day. In some tropical countries the dews are like showers of rain.

The leaves of plants radiate heat rapidly, and are consequently laden with dew, whilst the bare earth is dry.

Clouds.—100. When vapour is so condensed in the upper regions of the atmosphere as to become visible, it forms *clouds*. Clouds resting on the Earth are called *fogs*.

Rain, &c.—101. When clouds are further condensed by currents of cold air, by mountain ridges, or electricity, the particles become large and heavy, and they fall to the Earth as *rain*, *snow*, or *hail*. Snow is frozen vapour, hail is frozen rain.

102. Within the tropics the rains are periodical, months of incessant and violent rain being followed by a corresponding season of drought. The rainy season is on the same side of the Equator as the sun, where evaporation is greatest. The calm belts have almost constant rains. As these belts shift a few degrees north and south with the sun, they cause two rainy seasons at those places which they cross twice in the year.

103. The sea is the great reservoir from which rain is derived. The many large rivers flowing to the sea show the excess of rain-fall on the land above the evaporation from its surface.

It is supposed by some writers that much of the rain which falls in the Temperate Zones is evaporated in the opposite hemisphere. (See *Winds*, 94.)

CLIMATE.

104. The climate of a country is the condition of its atmosphere, particularly in respect to *heat*, *moisture*, *prevalent winds*, and *salubrity*.

Climate has an important influence on the plants and animals of a country, as well as on the occupations, habits, and character of its inhabitants.

105. The word "climate" is derived from the Greek *klima*, a slope, and was used by the earlier geographers to designate the belts into which they divided the Earth's surface by imaginary lines parallel to the Equator. Each hemisphere contained thirty climates, twenty-four of which, called *half-hour climates*, were between the Equator and the Polar Circle; the remaining six, called *month climates*, were between the Polar Circle and the pole. This division of the Earth is now abandoned.

Influences affecting Climate.—106. Heat and moisture are the chief qualities of climate. These qualities are mainly dependent on the following circumstances:—

- (1.) Heat and humidity are greatest within the tropics, and both diminish as we approach the poles. (*See Earth as a Planet, 34.*)
- (2.) Heat rapidly diminishes as we rise above the sea-level. (*See 86.*) The quantity of rain is usually greatest in mountainous regions. (*See 101.*)
- (3.) A maritime position gives a more humid and temperate climate than a continental position. (*See 44 and 88.*)
- (4.) Warm ocean currents increase the heat and humidity of the coasts which they wash; cold currents lower the temperature. (*See 71.*)
- (5.) Prevailing winds have an important influence on climate. Within the trade wind region the eastern side of the continent is the most humid; in the temperate region the western side has the most rain. (*See 91, 94, and 97.*)
- (6.) Mountain chains sometimes protect against hot or cold winds. Regions enclosed with mountain chains, as in Central Asia and on the west side of North America, have little or no rain.

(7.) A general slope towards the Equator increases the heat; a slope towards the pole has the opposite effect. (*See Earth as a Planet, 33.*)

(8.) Cultivation of the soil and drainage, leaving less water to be evaporated, increase the heat. (*See 87.*)

(9.) Trees attract and condense the vapours of the atmosphere; hence the rain-fall is diminished by clearing away forests. In some countries destitute of forests, rain has been increased by planting groves of trees.

Lines of Equal Heat.—107. Temperature depends on so many causes, that places having the same latitude often differ widely in respect to climate. Accordingly, lines connecting places having the same mean temperature do not correspond with the parallels, but approach the Equator or recede from it according to the influence of local circumstances.

Lines of equal mean annual temperature are called *isothermal lines*; those of equal summer temperature, *isothermal lines*; and those of equal winter temperature, *isothermical lines*.

108. Near the Equator the isothermal lines correspond more nearly with the parallels than in high latitudes. In the Northern Hemisphere, they recede furthest from the Equator on the west side of the continents.

On the west side of America the annual heat is as great at 55° N. as in Nova Scotia at 45°. On the west side of Europe the same annual temperature is found even further north than on the west of America.



THE FRIGID ZONE.



THE TEMPERATE ZONE.



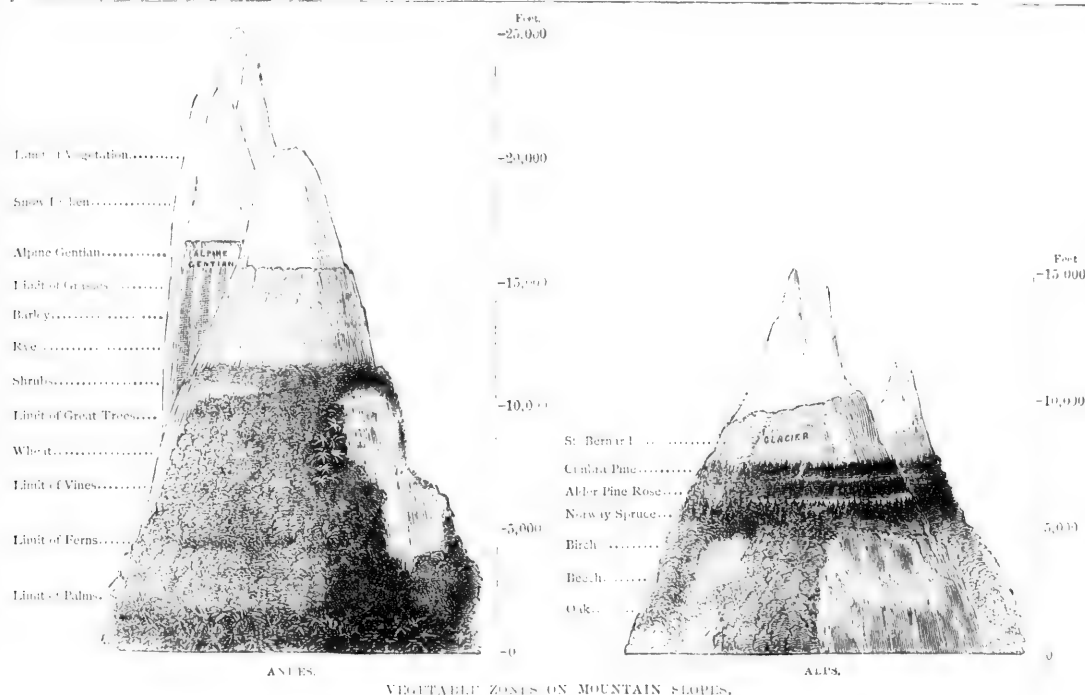
THE TORRID ZONE.

THE ZONES.

THE ORGANIC WORLD.

109. We have seen that the Earth's surface is characterized by great diversity—land and water, mountain and plain, heat and cold, moisture and drought; but not more varied are the features and conditions of different parts of the Earth than are the plants and animals which

live upon them. Divine wisdom is everywhere apparent in the beautiful adaptations, in the various forms of organic life, to the climate and other conditions of its abode. It is also worthy of observation, that whilst most plants and animals are limited to a narrow range, many of the most useful to man seem designed as citizens of the world.



PLANTS.

110. The number of known species of plants is about 120,000.

Vegetation is most luxuriant and varied in the Torrid Zone. The forests are composed of majestic evergreens, whose trunks and branches support twining plants and parasites in such profusion that it is sometimes difficult to ascertain to which stem the leaves and blossoms belong.

111. Some of the most noted trees of the Torrid Zone are the huge baobab with trunk 30 feet in diameter; the wide-spreading banyan; and the majestic palm, yielding food, drink, and clothing. Here also we find various ornamental woods, dye-woods, gums, drugs, spices, and choice fruits. The most important food plants are rice, dhoura, bananas, bread-fruit, dates, cocoa-nuts, and Indian corn.

112. In the Temperate Zones vegetation assumes a new aspect. The oak, maple, beech, and other forest trees, cast their leaves in the autumn. The most important cultivated plants are wheat, rye, oats, and corn; potatoes and other vegetables; and such fruits as the vine, apple, pear, and plum.

113. In the warmer parts of the Frigid Zone, firs, spruces, and dwarf birches are the principal trees; and barley is the

chief grain. As we approach the pole we find shrubs of alder and willow, and finally the mosses and lichens, which bring us to the regions of eternal snow.

Vegetable Zones.—114. Some writers divide the Earth into six vegetable zones, which are separated by isothermal lines:—

- (1.) *The Tropical Zone*, yielding spices, coffee, and gums.
- (2.) *The Sub tropical*, yielding sugar cane, cotton, and orange.
- (3.) *The Warm Temperate*, yielding the vine, tobacco, and wheat.
- (4.) *The Cold Temperate*, yielding oats, rye, and apples.
- (5.) *The Cold Zone*, yielding barley, vegetables, and pines.
- (6.) *The Arctic Zone*, yielding mosses and lichens.

Mountain Slopes.—115. Mountains in the Torrid Zone whose summits rise above the snow line, present, within narrow compass, nearly all the variety of vegetation found between the Equator and the poles. At the base of the Andes are the tropical palms; rising one stage, we find tree ferns; then the Peruvian bark tree, oak, and vine; next the dwarf trees; then the grasses; and finally the mosses and lichens. A similar gradation is found on the slopes of the Andes and other mountains in the Temperate Zones. (See *Illustration, Vegetable Zones on Mountain Slopes.*)

ANIMALS.

116. The number of known species of animals is about 250,000.

Most animals are limited in their range by climate, and

it is not usual to find precisely the same species in countries remote from each other, though their climates may be quite similar.

There is frequently such a resemblance in the species of different continents that they are styled representative species—as the crocodile of Africa and alligator of South America.

117. The Torrid Zone surpasses the other parts of the Earth in the number, size, and beauty of its animals. Some of the most important are the elephant, rhinoceros, hippopotamus, camelopard, lion, tiger, leopard, panther, monkey, crocodile, alligator, boa, and ostrich. Insects are very numerous in this zone.

There are two species of elephants; the larger is confined to Asia, the smaller to Africa. The lion is peculiar to Asia and Africa; the puma is its representative in America. The camel is also peculiar to Asia and Africa; the llama of the Andes is the American camel.

118. The animals of the Temperate Zones are less ferocious than those of the Torrid Zone. Some of the more important are the bison, deer, ox, horse, boar, wolf, bear, fox, beaver, and hare; and among the birds, the eagle, turkey, goose, and pheasant.



GRIZZLY BEAR.

119. The animals of the Frigid Zones are generally of a dusky colour. There are but few species. The more important are the reindeer, musk ox, polar bear, grizzly bear, arctic fox, ermine, sable, sea otter, whale, walrus, and seal. The birds are generally waders and swimmers, found along the shores in summer. There are no reptiles, and but few insects.

The grizzly bear is peculiar to the Rocky Mountains of North America.

MAN.



FIVE RACES OF MEN

1. *P. M. of the Caucasians* 2. *P. M. of the Mongolians*
3. *P. M. of the Negroes* 4. *P. M. of the Malays* 5. *P. M. of the Indians*

120. The total number of human beings on the Earth is estimated at 1,182,500,000.

Man can subsist upon almost all kinds of food. In the tropical regions he lives principally on rice, cocoa-nuts, bananas, and various fruits; in the temperate regions he lives on the various grains and vegetables, combined with animal food; in the frozen regions, where the earth yields nothing, he betakes himself almost entirely to animal food. By his pliable physical nature, and his skill in adapting his clothing and shelter to varied circumstances, he flourishes under every condition of climate. He thus takes the whole Earth as his domain.

121. It is only in temperate climes, however, that man attains to the fullest development of all his powers. Intense heat, and the absence of incentives to activity, in the Torrid Zone, render him effeminate; pinched by cold in the Arctic regions, and requiring to exert all his energies to sustain the body, he makes but little progress in civilization; in temperate climates activity is both needful and agreeable, a moderate amount of labour secures the necessities of life, and there is leisure and inclination for mental culture.

Diversity.—122. We see the greatest diversity of physical features prevailing over the Earth. It is probable that every country makes its own impress on human character. The inhabitants of the rugged mountain are not like the inhabitants of the plain; those who live

by the sea-side differ from those of the interior: hence national peculiarities.

123. The nomadic herdsmen of Central Asia, who need to be ever on the move to find fresh pasturage, seek little beyond the supply of present wants, make no efforts to improve the place of their sojourn, and never rise beyond the rude condition of their ancestors. Their wandering habits enable them to commit crime with impunity, and accordingly they are noted for outrage and robbery.

124. The inhabitants of Central Africa are isolated from the rest of the world; they know nothing of its improvements; are never stimulated by its rivalries; never hear of its Christianity; and so, never awakened to struggle for anything more elevated as regards this life or the life to come, they continue immured in barbarism.

125. In the temperate regions of Europe and North America we find a fixed population, enjoying free intercourse with other countries, and enlightened by Christianity. In these parts of the world we find the highest civilization and the greatest power.

126. Since the inhabitants of the various parts of the world are exposed to such diversified influences, it is not surprising to find many marked peculiarities in different portions of the human family. The most striking physical differences are in colour, form of the skull, features of the face, qualities of the hair, and the stature.

127. It is usual to divide mankind into five races, or varieties:—

The Caucasian, or white race; the Mongolian, or yellow race; the Ethiopian, or black race; the Malay, or brown race; and the American, or red race.

The five races are not separated by very sharp lines, but shade into each other through subordinate varieties. The Caucasian and Mongolian races each comprises about five-twelfths of the human family.

128. The Caucasian race takes its name from the Caucasus Mountains, near which is the supposed centre from which the race emanated, and indeed the birth-place of the whole human family. It comprises nearly all the inhabitants of Europe, Western Asia, Northern Africa, and America. It surpasses the other races in energy of character, and it has been the dominant race from the earliest times.

129. The Mongolians have a low retreating forehead, broad face, oblique eyes, and dark straight hair, in some respects resembling the North American Indian. They include the inhabitants of Eastern Asia, with the Finns, Laplanders, Magyars, and Turks of Europe, and the Esquimaux of North America.

130. The Ethiopian race comprises the inhabitants of Africa south of the Great Desert and Abyssinia, except the Europeans of the Cape; it also includes the natives of Australia and Papua, although these differ considerably from the African negro.

The Malays inhabit the peninsula of Malacca, the islands of Malaysia,

Polynesia, and New Zealand. In this race the head is narrow, the nose full and broad, the hair black and crisp.

The American race includes the aborigines of America, with the exception of the Esquimaux.

Religion.—131. There are five principal systems of religion in the world—*Christianity, Judaism, Mohammedanism, Brahminism, and Buddhism.* All originated in Asia.

Christians are divided into three great bodies—*Protestants, Roman Catholics, and the Greek Church.* They include less than one-third of the human race, or about 330,000,000, embracing nearly all the inhabitants of Europe and America. The Jews number about 5,000,000; the Mohammedans about 160,000,000.

Social Conditions.—132. The various conditions of human society may be reduced to three principal classes, represented by the hunter, the shepherd, and the agriculturist.

133. In hunter life, which is the lowest type, men wander about, living in tents and owning no property except a few movables. They are divided into small tribes, and have no regular government. The Micmac Indians are an example.

134. Pastoral life is also migratory, and there is no individual right in the soil; but here we find an increase of property in the form of domestic animals—as horses, cattle, and sheep. The people are generally subject to a central head. The nomads of Central Asia are an example.

135. In the third and highest state of society men have fixed abodes and an individual ownership in the soil, from which they derive their chief subsistence. Here only do we find vast accumulations of wealth in various forms. The country is ever changing its aspect through the improving hand of man. Carriage-roads, rail-roads, and canals are constructed; manufactories are established; trade is prosecuted; large cities are built; and men rise to the highest condition of civilization.

136. In civilized society men are combined into States, called empires, kingdoms, or republics. There are two principal forms of government—the *monarchy*, where the power is vested in a single person; and the *democracy*, where the chief power is in the hands of the people, or such of themselves as they shall elect for a limited period.

137. Monarchies are *absolute or despotic*, when the sovereign makes such laws as he pleases; they are *limited or constitutional*, when the legislative power is shared by the crown and a popular assembly, and the sovereign is required to govern according to fixed principles called the *constitution*. This form combines the principles of monarchy and democracy.

The government of Great Britain is a limited monarchy; that of Russia is an absolute monarchy; that of the United States, a democracy.

NORTH AMERICA

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NORTH AMERICA.



FALLS OF NIAGARA.

I. History.—1. The Continent of America takes its name from Americus Vesputius, a native of Florence, who explored a part of the coast of South America in the year 1499.

Northmen from Norway discovered North America about 1000 A.D., and during the two succeeding centuries they visited the country frequently. They crossed the Atlantic to Newfoundland by way of their colonies in Iceland and Greenland, visited Nova Scotia, and sailed south as far as Massachusetts.

2. Christopher Columbus, a native of Genoa, sailing from Spain under the patronage of the sovereigns Ferdinand and Isabella, discovered the West Indies in 1492.

Columbus had been confirmed in his belief that land was not very

remote beyond the western waters, by the fact that bodies of men, differing from any known race, pieces of carved wood, and various tropical products, were frequently cast upon the shores of the Azores and Madeira Islands. (See *Physical Geography*, 60.)

3. Columbus discovered the mouth of the Orinoco, on the coast of South America, in 1495, and the coast of Central America in 1502. He was never aware that he had found a new continent, but supposed that the lands he had visited were outlying portions of Asia. The grand aim of the times in which he lived was to find a shorter passage to India than the then recently discovered route around Africa.

4. Seeking a short navigable route to China and India, John Cabot and his son Sebastian, sailing from Bristol in England in 1497, took a more northerly course than Columbus, and discovered Newfoundland and the coast of Labrador. In the following year Sebastian Cabot explored a large part of the coast of North America.

5. The New World, as America was called, presented great attractions to many European adventurers eager for wealth. Many fabulous stories concerning it were believed. Ponce de Leon, a Spaniard, in search of a *fountain of life* to renovate his aged limbs with fresh youth, discovered Florida, where he was killed by the arrow of an Indian.

The southern part of North America was colonized by the Spaniards; the central portions by the British and French.

II. Position.—6. North America has the Arctic Ocean on the north; the Atlantic on the east; the Gulf of Mexico on the south-east; and the Pacific on the west.

It is joined to South America by the *Isthmus of Panama*, 38 miles in breadth; and it is separated from Asia on the north-west by *Behring Strait*, 36 miles broad.

North America is wholly in the Northern Hemisphere, and the greater part of it is in the North Temperate Zone.

N. lat. 7° — 72° ; W. long. $55^{\circ} 30'$ — 168° .

III. Form.—7. The general outline of North America is triangular.

The narrow portion in the south-east, between the Isthmus of Panama and the Isthmus of Tehuantepec, is called *Central America*.

The angular points are:—

Cape Prince of Wales, in the north-west, $65^{\circ} 30'$ N., and 168° W.; Cape Charles, in the north-east, $52^{\circ} 15'$ N., and $55^{\circ} 30'$ W.; port of Guatemala, in the south, 15° N., and $90^{\circ} 30'$ W.

EXERCISE.—Draw the approximate form of North America.

IV. Coast.—8. The Arctic and Atlantic coasts are nearly equal in length, and are much more irregular than the longer Pacific coast.

The coast line is estimated at 21,000 miles.

9. The principal **Coast Waters** are—*Hudson's Bay* and *Strait*, *Davis Strait*, *Baffin's Bay*, *Strait of Belle Isle*, *Gulf of St. Lawrence*, *Bay of Fundy*, *Chesapeake Bay*, *Florida Strait*, *Gulf of Mexico*, *Caribbean Sea*, *Bay of Honduras*, *Gulf of Tehuantepec*, *Gulf of California*, and *Behring Strait*.

Hudson's Bay and the *Gulf of Mexico* are large inland seas. The former was discovered by Henry Hudson, who was afterwards left to perish in its waters by his mutinous crew.

The *Gulf of California*, running in between parallel mountain ranges, is the chief inlet on the west.

10. The **Peninsulas** are—*Bothia*, *Melville*, *Labrador*, *Nova Scotia*, *Florida*, *Yucatan*, *Lower California*, and *Alaska*.

11. The principal **Capes** are—*Prince of Wales*, *Lishurn*, *Icy Cape*, *Point Barrow*, *Bathurst*, *Chidley*, *Charles*, *Farewell*, *Race*, *Sable* (*Nova Scotia*), *Ann*, *Cad*, *Hatteras*, *Sable* (*Florida*), *Catoche*, *Graciosa*, *Dios*, *Malto*, *Corrientes*, *St. Lucas*, *Mentozino*, *Flattery*, and *Romanzor*.

12. The most important **Islands** are the following:—

In the Arctic—*Greenland*, *Iceband*, *Grinnell Land*, or *Ellesmere*, *North Devon*, *Cockburn*, *Cumberland*, *Southampton*. There are also various others.

On the east—*Newfoundland*, *Anticosti*, *Prince Edward*, *Cape Breton*, *Long Island*, the *Bermudas*, and the *West Indies*.

On the west—*Vancouver*, *Queen Charlotte*, *Prince of Wales*, *Sitka*, *Kodiak*, and the *Alutian Isles*.

EXERCISE.—Trace the coast line of North America, and mark the coast waters, capes, and islands.

V. Area.—13. North America is 450 times larger than *Nova Scotia*, comprising one-sixth the land surface of the Earth.

The area equals a square of 2900 miles. The extreme length from north to south is 5600 miles; the breadth on the 45th parallel is 3120 miles.

VI.—Surface.—14. North America may be divided into three great natural divisions: a broad and elevated highland region on the west; a narrower and less elevated highland region on the east; and a great lowland plain through the middle.

15. The Western or Pacific Highlands extend the whole length of the continent, from the Arctic Ocean to the Isthmus of Panama. They are quite low at each extremity, and are broadest and highest near the middle. On each side of this high plateau are great mountain systems;—the *Rocky Mountains*, on the east, sloping gradually to the central plain; and the *California System*, on the west, embracing the *Sierra Nevada*, *Cascade*, and *Coast Ranges*, which slope abruptly to the Pacific.

16. The *Rocky Mountains* extend from the Arctic Ocean to Mexico. There they take the name of *Sierra Madre*, and continue to Central America, where they gradually merge into the plateau which connects them with the Andes of South America. They often consist of two or more parallel ranges, separated by elevated valleys. There are several high peaks near the middle of the system;—as *Mount Brown*, 15,900 feet; *Mount Hooker*, 15,700; *Fremont's Peak*, 13,570; *Long's Peak*, 12,000. *Popocatepetl*, a volcano in the south of Mexico, 17,720 feet high, is the culminating point.

17. The *Sierra Nevada*, or *Snow Mountains*, and the *Cascade Mountains*, are the principal ranges on the west. The *Sierra Nevada* extend from Cape San Lucas to about the 40th parallel; the *Cascade Mountains* form the northern portion of the system. North of the *Frazer River* they are sometimes called the *Alps of the Pacific*. These mountains are not generally so elevated as the *Rocky Mountains*; but there are many lofty peaks, of which several in the north are volcanic. *Mount St. Elias* has an elevation of 14,970 feet; *Mount St. Helens*, 15,750; *Mount Hood* and *Mount Jefferson*, 15,500.

The *Coast Range*, near the Pacific, is quite low.

18. The Atlantic Highland Region is much shorter, narrower, and less elevated than the Pacific. It extends from *Hudson's Strait*, in the north, to within 200 miles of the *Gulf of Mexico*. It is divided into two portions by the valley of the *St. Lawrence*. The general height of the tableland is not more than 500 or 600 feet. The northern division is the broadest. The principal mountains are, the *Ap-*

palachian, or *Alleghany System*, in the southern division, sloping easterly to the Atlantic and westerly to the central plain.

19. The **Appalachian Mountains** consist of several low parallel ranges between the south bank of the St. Lawrence and 33° north latitude. Some of the most important ranges are, the *Blue Ridge*, the *Shenandoah Mountains*, the *Alleghany Mountains*, the *Adirondack*, the *Green Mountains*, and the *White Mountains*.

The average height of the system is about 2500 feet. The highest points are *Mount Washington*, in the White Mountains, 6226 feet; and *Black Mountain*, in the Blue Ridge, 6700 feet.

20. The Central Plain, between the highland regions, extends from the Arctic Ocean to the Gulf of Mexico. It is divided by a low water-shed, about 1500 feet in height, near the 48th parallel, and thus consists of two slopes, a *northern* and a *southern*.

EXERCISE.—Lay down the principal mountain ranges of North America.

The pupil will observe that the Rocky Mountains are nearly in a straight line between 140° west longitude, in the north, and the Isthmus of Tehuantepec.

VII. Rivers.—21. North America contains some of the largest rivers in the world. They may be grouped in five systems, according to the slopes which they drain,—the *Arctic*, the *St. Lawrence*, the *Atlantic*, the *Gulf of Mexico*, and the *Pacific*.

22. The Arctic System comprises the rivers which drain the northern section of the central plain, and flow into the Arctic Ocean and Hudson's Bay. The principal rivers are, the *Mackenzie*, *Coppermine*, *Great Fish*, *Churchill*, *Saskatchewan*, *Red River*, and *Nelson*.

The streams on this slope are of little commercial value, as they communicate with frozen seas, and are themselves frost-bound during a large part of the year. The Mackenzie is about 2200 miles in length, and has many lake expansions.

23. The St. Lawrence, including the great lakes, rises under the name of the *St. Louis* on the south of the water-shed dividing the central plain.

The inclination of the basin is first south-easterly, then north-easterly. The internal navigation afforded by the river and lakes is of the highest importance. The entire length is about 2000 miles.

24. The Atlantic System includes the numerous streams which drain the Atlantic slope of the Appalachian Mountains. The most important are, the *St. John*, *Connecticut*, *Hudson*, *Susquehanna*, *Potomac*, *James*, *Roanoke*, *Cape Fear*, and *Savannah*.

The rivers of this slope are comparatively short and small, but they are of great importance. Some are navigable for considerable distance, and many furnish valuable water-power for working machinery.

25. The Gulf System comprises the rivers on the southern

section of the central plain, flowing into the Gulf of Mexico. The principal are, the *Mobile* and its tributaries, *Mississippi* and its tributaries, the *Colorado*, and the *Rio Grande*.

The Mississippi (*Father of Waters*) is the largest river of North America. It flows from Lake Itasca, about 1600 feet above the sea-level. The entire length is about 3200 miles. The most important tributaries are, the *Ohio*, on the east; and the *Missouri*, *Arkansas*, and *Red River*, on the west. Following the Missouri, the river is over 4000 miles in length. This immense river system opens to commerce the whole southern section of the plain.

26. The Pacific System includes the streams on the west of the Rocky Mountains, flowing into the Pacific Ocean. The most important are, the *Colorado*, *Sacramento*, *Columbia*, *Frazer*, and *Yukon*.

Some of the rivers of this slope are navigable for many miles; in others, navigation is soon impeded by rapids and waterfalls. Some have a large part of their course through desert regions.

VIII. Lakes.—27. North America surpasses all the other great divisions in the grandeur of its lakes. The most important are the five great lakes, *Superior*, *Huron*, *Michigan*, *Erie*, and *Ontario*, in the basin of the St. Lawrence. They have a united area about five times greater than Nova Scotia, or equal to a square of 300 miles.

Lake of the Woods, *Winnipeg*, *Winnipegosis*, *Deer*, *Wollaston*, *Athabasca*, *Great Slave*, and *Great Bear Lakes*, are large lakes on the northern slope. *Great Salt Lake* is on the plateau west of the Rocky Mountains; *Chapala*, on the plateau of Mexico; *Nicaragua*, in Central America.

28. Lake Superior, the largest fresh-water lake in the world, equals a square of 180 miles. Huron and Michigan are each about two-thirds as large; Erie is less than one-third, and Ontario less than one-fourth. The size of Superior Great Slave Lake is about half as large as Huron. Nicaragua is one-eighth the size of Superior, and Great Salt Lake the one-sixteenth.

EXERCISE.—Lay down the principal rivers and lakes of North America on the outline map.

IX. Soil.—29. The soil embraces almost every variety. The southern slope of the Central Plain, the valley of the St. Lawrence, a large part of the southern section of the Atlantic Highland, and the Pacific Highland west of the Sierra Nevada and Cascade Mountains, are very fertile. The table-land east of the Sierra Nevada and Cascade Mountains is generally desert. Much of the northern slope consists of frozen barrens.

X. Climate.—30. The northern part of the continent is very cold; the southern, except the highlands, very hot. The central part, including the larger portion, has a temperate climate, except on the mountain heights of the west. The western side of the continent, from the mouth of the Columbia River northward, is much milder than the eastern side in the same latitude. (See *Physical Geography*, 71, 108.)

31. A line drawn south-easterly from the Peninsula of Alaska, through Great Bear Lake and along the south of Hudson Bay, to the mouth of the St. Lawrence, would mark the northern limit of the temperate region; a line from the northern point of the Gulf of California to the extreme north of the Gulf of Mexico, its southern limit—the highlands excepted.

32. The quantity of rain is very unequal in different parts of the temperate region. The most humid portion lies between the Pacific coast and the Sierra Nevada and Cascade ranges. Throughout the highland region east of these ranges the rain is chiefly confined to the more elevated mountain slopes. There is thus a rainless region on each side of the Rocky Mountains;—that on the east is from 200 to 400 miles in breadth, and has its northern limit near the height of land dividing the central plain.

The Atlantic side of the continent, including the central plain, is generally well watered.

33. The rain winds on the western side of the continent blow from the south-west, obtaining their moisture from the Pacific. On the eastern side they blow from the south-west, south, and east, bringing moisture from the Gulf of Mexico and the Atlantic. (*See Physical Geography*, 94.)

XI. Minerals.—34. Almost all the important minerals are abundant in North America, including gold, silver, iron, coal, lead, copper, and quicksilver.

Gold is plentiful in California and British Columbia; silver in Mexico; coal and iron in Nova Scotia, New Brunswick, and Pennsylvania; lead near the upper course of the Mississippi; copper near Lake Superior; and quicksilver in California.

XII. Plants.—35. Vegetation is diversified according to the climate.

When America was discovered, the temperate regions, excepting the prairies of the central plain and the rainless districts, were clothed with forests of pine, oak, maple, chestnut, and other trees. Many of these forests have been cut away, and in their place are fields of wheat, corn, and other grains. Towards the south, tobacco, cotton, and rice are cultivated.

36. Among the trees of the hot region in the south are mahogany, rosewood, logwood, cocoa-nut, banana, orange, and lemon. The cultivated plants include sugar-cane, coffee, tobacco, and pine-apples. (*See Physical Geography*, 110–113.)

In the cold regions of the north trees do not grow, and the chief plants are lichens and mosses.

XIII. Animals.—37. The wild animals of America are not equal in size to those of Asia and Africa.

The larger animals of the temperate region are the bison, moose, deer, brown bear, wolf; and in the western highlands, the grizzly bear and the puma.

38. The animals of the north are generally clothed with fur. The

musk-ox and reindeer are found during the short summer feeding on the mosses and low plants; in winter they retreat to the forests further south. (*See Physical Geography*, 119.)

29. In the hot regions are the tapir, jaguar, puma, sloth, armadillo, monkey, and alligator. Insects are very numerous. The cochineal is an important article of commerce.

XIV. Inhabitants.—40. The population of North America is estimated at 50,000,000. The great majority are of European origin.

The south of the continent was colonized principally by Spaniards; the temperate regions by British, Irish, and French.

There are many negroes in North America, whose ancestors were brought from Africa as slaves. All are now free, except in the Spanish West Indies.

41. The aborigines include two races. The Indians, or copper-coloured race, are thinly scattered over the continent. On some of the northern coasts and islands of the Arctic are a few called Esquimaux, usually classed with the Mongolians of Asia. They are of small size, clothe themselves with the skins of animals, and in winter live in snow houses.

Christianity is the principal religion. The inhabitants of British origin are Protestants and Roman Catholics; those of Spanish and French origin are chiefly Roman Catholics.

XV. Divisions.—42. The principal portion of the main body of North America is divided between *British America* in the north, and the *United States* in the middle.

The other divisions are, *Mexico*, towards the south; and *Central America*, comprising the narrow portion in the south; the *West Indies*, between North and South America; and *Danish America*, comprising the islands of *Greenland* and *Iceland*.

EXERCISE.—Draw boundary lines between the principal political divisions of North America.

XVI. Towns.—43. Nearly all the principal cities are on the Atlantic side of the continent, either on the coast or beside a navigable river. New York, in the United States, with a population of 814,000, is the largest city. Quebec and Victoria, in British America, are the most northerly towns in America.

In Mexico and Central America, the cities are generally on the table-land of the interior.

XVII. Industries.—44. The chief occupations are agriculture, manufacturing, mining, fishing, and commerce.

XVIII. Government.—45. The governments of North America are representative; the people choosing from among themselves the men who make the laws. British America is a dependency of Great Britain. The United States is the most powerful *republic* in the world.

Frequent revolutions have retarded the prosperity of Mexico

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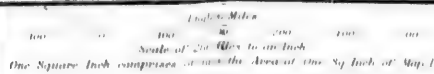
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and Central America. Most of the islands belong to European powers.

QUESTION.—To what causes may the absence of rain on the table-lands each side of the Rocky Mountains be ascribed?

BRITISH AMERICA.

I. History.—46. This portion of North America forms a part of the British Empire; hence its name.



VIEW AMONG THE THOUSAND ISLES.

The first British settlement in North America was made at Jamestown in Virginia, in 1607. The exploits of Captain John Smith, and his rescue from the Indians by Pocahontas, the daughter of an Indian chief, give a touch of romance to the early history of this colony.

47. Emigrants from Britain, many of whom were driven from their native land by religious persecution, formed several colonies along the Atlantic slope. In 1733 the colonies numbered thirteen.

The most interesting settlement was that made in Massachusetts, in 1620, by the *Pilgrim Fathers*, who crossed the Atlantic in the *Mayflower*.

43. The French also established colonies—one on the Peninsula of Nova Scotia, and another on the lower course of the St. Lawrence. These colonies were finally ceded to Great Britain in 1763, by which the whole eastern side of the continent, except the Peninsula of Florida, became British territory.

49. In 1783, Great Britain, by acknowledging the independence of her thirteen oldest colonies, now included in the United States, relinquished her claim to the southern portion of her possessions in North America. The possessions still retained were the colonies of Nova Scotia, New Brunswick, Canada, Newfoundland, Prince Edward Island, and Hudson Bay Territory. In 1858, the south-western part of Hudson Bay Territory was formed into a colony under the name of British Columbia.

50. In 1867, by Act of British Parliament, the Provinces of Nova Scotia, New Brunswick, Lower Canada and Upper

Canada, were united into a confederate State, under the name of *The Dominion of Canada*. At the same time, Lower Canada received the name of *The Province of Quebec*; Upper Canada, *The Province of Ontario*.

II. Position.—51. British America occupies the whole north of the continent, except Walrussia in the north-west. The greater portion is in the northern half of the North Temperate Zone. (*For bounds, see Map.*)

The parallel of 49° N. forms the boundary between British America and the United States, from the Pacific to the Lake of the Woods; the line then runs southerly, passing through the centre of the great lakes to the St. Lawrence. Further east, the line pursues a very devious course. The meridian of 141° W. separates it in part from Walrussia. N. lat. 42°—72°; W. lon. 55° 30'—141°.

III. Form.—52. The outline is an irregular five-sided figure.

IV. Coast.—53. The Atlantic, with its numerous bays and harbours, is the most important coast. The United States' Territory of Walrussia extends southerly in a narrow strip

along a large part of the Pacific coast.

The chief inlets are, *Hudson's Bay* and *Strait*, the *Gulf of St. Lawrence*, *Bay of Fundy*; and on the west, *Queen Charlotte's Sound* and the *Gulf of Georgia*.

54. The peninsulas are, *Boothia*, *Melville*, *Labrador*, and *Nova Scotia*.

The capes are, *Bathurst*, *Chidley*, *Charles*, *Race*, and *Sable*.

The islands are, the *Arctic Groups*, on the north; *Newfoundland*, *Anticosti*, *Prince Edward*, and *Cape Breton*, on the east; *Vancouver* and *Queen Charlotte* on the west.

EXERCISE.—Trace the outline of British America, marking the coast waters, peninsulas, capes, and islands.

V. Area.—55. British America comprises about three-eighths of North America. It is 161 times larger than Nova Scotia:

—equal to a square of 1733 miles.

VI. Surface.—56. British America embraces a portion of each of the three great physical divisions of North America, including the whole of the northern slope of the central plain.

The *Rocky Mountains* and the *Cascade Range* are the principal mountains.

Mount Brown and *Mount Hooker* are the highest points. (*See North America*, 16.)

EXERCISE.—Lay down the mountains of British America on the outline map.

VII. Rivers.—57. The rivers are included in four of the river systems of North America. (*See North America, 21.*)

The principal are the *Mackenzie, Coppermine, Great Fish, Churchill, Saskatchewan, Red River, Nelson, St. Lawrence, Ottawa, St. John, Columbia, Frazer, and Peace.*

VIII. Lakes.—58. Numerous large lakes are a remarkable feature of British America. Four of the great lakes in the basin of the St. Lawrence lie between British America and the United States. Michigan is wholly in the United States. (*See North America, 27, 28.*)

On the northern slope are Lakes *Winnipeg, Deer, Athabasca, Great Slave, and Great Bear.*

EXERCISE.—Lay down the rivers and lakes on the map of British America.

IX. Soil.—(*See North America, 29, and the several Provinces.*)

X. Climate.—59. In respect to temperature, British America may be divided into three regions;—*the temperate*, in the south; *the cold*, in the middle; and *the frozen*, in the north. The eastern side is much colder than the western. (*See North America, 30.*)

XI. Minerals.—60. Gold is obtained in British Columbia, Nova

Scotia, and Quebec; coal and iron are abundant in Nova Scotia and New Brunswick; copper and petroleum in Ontario.

XII, XIII. Plants.—61. The temperate portion yields wheat and other grains; the colder regions produce barley and vegetables; and in the extreme north, lichens and mosses constitute the principal vegetation.

XIV. Inhabitants.—62. The total number of inhabitants is about 4,000,000. The majority are of British origin.

Indians are scattered throughout the various divisions of British America, and a few Esquimaux are found along the northern coasts.

XV. Divisions.—63. British America consists of the following divisions:—

The Dominion of Canada, in the south-east; the Provinces of *Newfoundland and Prince Edward Island*, on the eastern coast; the Province of *British Columbia and Vancouver Island*, in the south-west; and *Hudson Bay Territory*, in the north.

XVI. Towns.—64. The cities and large towns are all in the south-east.

Montreal (110,000), on an island in the St. Lawrence, is the largest city. Quebec is the oldest city.

XVII, XVIII.—(*See various Provinces.*)



RIVER ST. LAWRENCE.

THE DOMINION OF CANADA.

I.-IV.—65. The Dominion of Canada was formed in 1867, by the union of Nova Scotia, New Brunswick, and Canada.

The terms of union were drawn up by delegates from the various Provinces and ratified by the Parliament of Great Britain.

66. This most important division of British America is

situated between the great lakes and the Atlantic Ocean. It is wholly in the temperate region.

The Gulf of St. Lawrence and the Bay of Fundy are the principal inlets.

V.-XIV.—67. The **area** is nearly 24 times larger than Nova Scotia, or it equals a square of 660 miles.

The **surface** is generally low and undulating. There are no high mountains.

68. The **River St. Lawrence** and the great lakes open the interior to commerce.

The **mineral and agricultural** resources are very great; the **forests and fisheries** also yield immense wealth.

The population in 1861 was 3,086,000.

XV.-XVII.—69. The Dominion of Canada consists of the Provinces of *Nova Scotia, New Brunswick, Quebec*, and *Ontario*.

70. **Ottawa** (15,000) is the capital. It is situated on the River Ottawa, 100 miles from its mouth.

The most important building in the city is the new Parliament House, which cost \$2,000,000. Ottawa is connected with Lake Ontario, 126 miles distant, by the Rideau Canal; and a branch railroad, 53 miles in length, connects it with the Grand Trunk line at Prescott. A little above the city are the Chaudiere Falls.

71. The principal **occupations** are agriculture, mining, fishing, lumbering, ship-building, manufacturing, and commerce.

The total value of **exports** from the Dominion is about \$70,000,000; **imports**, \$75,000,000.

The numerous excellent harbours of the maritime provinces afford every facility for foreign commerce; and the St. Lawrence and great lakes open up the interior. There are also about 2500 miles of railway and 250 miles of canal.

The *Grand Trunk* railway, extending over 1000 miles, and the *Great Western* communicate with lines in the United States. The Intercolonial Line, in course of construction, which will connect the railways of Nova Scotia and New Brunswick with the Grand Trunk, will give 430 miles additional.

XVIII. **Government**.—72. The government is modelled after that of Great Britain. The Governor-General represents the Queen. He is advised by a Privy Council.

The Parliament is composed of the *Governor-General*, the *Senate*, and the *House of Commons*.

73. The Senate consists of 72 members or senators, appointed by the Governor-General—12 for Nova Scotia, 12 for New Brunswick, 24 for Quebec, and 24 for Ontario. A senator must be over thirty years of age, possess property worth \$4000 above all liabilities, and reside in his own Province.

74. The Commons consists of 181 members—19 for Nova Scotia, 15 for New Brunswick, 65 for Quebec, and 82 for Ontario. The members of the Commons are elected by the people for the term of five years. The number of members in the Commons is to be readjusted every ten years, according to the population of the various Provinces—

the number for Quebec to remain at 65, the members for the other Provinces to bear the same proportion to their population as 65 to the population of Quebec.

The Government has control over all matters relating to the general interests of the Dominion, as trade, fisheries, postal service, defences, and criminal laws.

The **revenue** arises chiefly from duties on imports—total, about \$16,000,000.

The public debt is about \$80,000,000.

NOVA SCOTIA.

I. **History**.—75. The French began to colonize Nova Scotia in the year 1605. The first settlement was at Annapolis.

The French called the country *Acadie*—a name said to be derived from the Micmac *cadie* or *kaddy*, signifying “abundance” or “abounding in,” and often employed in that language as an affix in compound words. Thus *Shuben-a-cadie* signifies “abounding in ground nuts.” The syllable *a* is merely a connective.

The name *Nova Scotia* was given to the country in 1621, when it was ceded by James I. of England to Sir William Alexander.

76. By the Treaty of Utrecht, 1713, Nova Scotia was finally ceded to Great Britain. It then included the territory which now forms New Brunswick and Prince Edward Island. The inhabitants consisted of Indians and a few thousand French called *Acadians*. The first permanent British settlement was formed at Halifax in 1749.

77. The Island of Cape Breton is supposed to have been named by Frenchmen from Bretagne or Brittany, a province of France. It was ceded to Great Britain in 1763.

The French built a strong town on the south-east, named Louisburg. This town was taken by a British fleet in 1759. From 1784 to 1819 Cape Breton formed a separate province under a military government.

II. **Position**.—78. Nova Scotia is situated on the Atlantic, and forms the south-eastern extremity of Canada. It is separated from New Brunswick, on the north, by the Bay of Fundy and the Isthmus of Chignecto; and from Prince Edward Island by Northumberland Strait.

The Strait of Canso, 15 miles in length and about 1 mile in breadth, separates the Peninsula from the Island of Cape Breton. The Isthmus of Chignecto is about 12 miles broad.

N. lat. 43° 25'—47°; W. lon. 59° 40'—66° 25'.

III. **Form**.—79. The form of the Peninsula is triangular, the base being on the Atlantic and the apex at the isthmus. Cape Breton is ovate, with a triangular projection on the north.

EXERCISE.—Draw the general form of the Province.

IV. **Coast**.—80. Nova Scotia has a great extent of sea-coast compared with its area, and no part of the interior is over 30 miles from the sea.



HALIFAX.

There are many excellent harbours, particularly on the Atlantic coast, where they are, with rare exceptions, open to navigation throughout the year.

81. The principal **Coast Waters** are—

The *Bay of Fundy*, *Chignecto Bay*, *Cumberland Basin*, *Minas Channel*, *Minas Basin*, *Cobequid Bay*, *Bay Verte*, *Tatamagouche Bay*, *Pictou Harbour*, *St. George's Bay*, *Strait of Canso*, *Aspy Bay*, *St. Ann's Bay*, *Great Bras d'Or*, *Little Bras d'Or*, *Bras d'Or Lake*, *East Bay*, *West Bay*, *St. Patrick's Channel*, *Whykokomagh*, *Sydney Harbour*, *Cow Bay*, *Miré Bay*, *Gabarus Bay*, *St. Peter's Bay*, *Lennox Passage*, *Chedabucto Bay*, *Halifax Harbour* and *Bedford Basin*, *Margaret's Bay*, *Mahone Bay*, *St. Mary's Bay*, *Digby Gut*, and *Annapolis Basin*.

82. The Bay of Fundy is an arm of the Atlantic penetrating far inland between Nova Scotia and New Brunswick. Its shores are usually rocky and elevated, forming a great wall against the sea. Digby Gut is a singular break in this wall, opening like a gate into Annapolis Basin.

The head waters of Cobequid Bay and Cumberland Basin are noted for their very high tides. (*See Physical Geography*, 64.)

Much of the coast on Minas Basin, Cobequid Bay, and Cumberland Basin is low, and the banks of the rivers for many miles up are below the level of high water.

The Strait of Canso is the great thoroughfare between the Atlantic and the Gulf of St. Lawrence.

83. The principal **Capes** are—

Split, *Blomidon*, *d'Or*, *Chignecto*, *Malagash*, *John*, *St. George*,

Mabou, *St. Lawrence*, *North*, *Egmont*, *Enfundé*, *Dolphin*, *Aconi*, *Breton*, *Canso*, *Porcupine*, *Sambro*, *Crown Point*, and *Sable*.

Blomidon, the eastern extremity of the North Mountain, is 450 feet high; Porcupine, on the Strait of Canso, 625 feet; North, north of Cape Breton, 1100 feet; Enfundé, 2100 feet; and Crown Point, on the Atlantic coast, 500 feet.

84. Small **Islands** are numerous, especially on the Atlantic coast.

The more important islands are—

Pictou Island, *St. Paul*, *Boulardarie*, *Scauri*, *Madame*, *Cape Sable*, *Long Island*, *Brier Island*, and *Sable Island*.

85. Boulardarie, between Great and Little Bras d'Or, is 25 miles in length.

Madame, south of Cape Breton, contains about 75 square miles, and has a population of about 5500.

Sable Island, about 100 miles south of Cape Breton, is a low sandy island, with dangerous sand shoals on the coast. It is about 25 miles in length and 1 mile in breadth. Herds of wild ponies roam over the island.

EXERCISE.—Draw an outline map of Nova Scotia, marking the coast waters, capes, and islands.

V. Area.—86. The Province equals a square of 136 miles. It contains about 11,904,000 acres. The Peninsula contains about five-sixths of this area; Cape Breton, one-sixth.

The entire length of the Province is 370 miles; the greatest breadth about 110 miles.

VI. Surface.—87. The general surface is low and undu-

The map is a detailed geographical representation of the Gulf of St. Lawrence and the Atlantic Ocean. It shows the coastline of Canada and the United States. The Gulf of St. Lawrence is labeled at the top, and the Atlantic Ocean is labeled on the right. The map includes numerous place names, rivers, and islands. The map is oriented with North at the top.

Key features include:

- Gulf of St. Lawrence:** The body of water at the top of the map.
- Atlantic Ocean:** The body of water on the right side of the map.
- Canada:** The landmass on the left and top, with various provinces and territories labeled (e.g., Quebec, New Brunswick, Prince Edward Island, Nova Scotia, New Brunswick, Prince Edward Island, Nova Scotia, New Brunswick, Prince Edward Island, Nova Scotia).
- United States:** The landmass on the right, with various states labeled (e.g., Maine, New Brunswick, Prince Edward Island, Nova Scotia, New Brunswick, Prince Edward Island, Nova Scotia).
- Islands:** Numerous islands are shown, including Cape Breton Island, Prince Edward Island, and various smaller islands in the Gulf of St. Lawrence.
- Rivers:** Several rivers are depicted, including the St. Lawrence River, the Saguenay River, and the Miramichi River.
- Place Names:** Numerous cities and towns are labeled, including Montreal, Quebec, and various coastal settlements.

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lating. A low water-shed runs through the middle of Nova Scotia, from which the slopes are towards the north and south. The southern slope is often rugged and rocky.

There are three low mountain ranges—

The *South Mountain*, forming the western portion of the central water-shed; the *North Mountain*, along the margin of the Bay of Fundy, from Blomidon to Digby Neck; the *Cobequid Mountains*, on the north of Cobequid Bay.

The mountains in the north of Cape Breton are the highest in the Province, but the most elevated peaks do not exceed half a mile in height.

88. The average height of the North and South Mountains is about 600 feet. The North Mountain rises abruptly on the south, and the verge presents many beautiful views of the fertile valley below, with its green fields and silvery winding streams.

The Cobequids are about 1100 feet high. They form a water-shed, with short slopes on the north and south.

89. The valley between the North and South Mountains is divided into two gentle slopes. The early French settlement of Port Royal was at the western extremity; Canard and Le Grand Pré at the eastern.

EXERCISE.—Lay down the mountains on the outline map of Nova Scotia.

VII. Rivers.—90. There are no large rivers. The numerous small streams form important harbours near their mouths. The longest rivers are about 50 miles in length. The principal are—

St. Mary's, La Have, Liverpool, Annapolis, Cornwallis, Avon, Shubenacadie, Salmon, Philip, Wallace, East River of Pictou, and Margarie.

VIII. Lakes.—91. Small lakes are very numerous, particularly on the Atlantic slope.

Rossignol, Grand Lake, Ship Harbour Lake, Ainslie, which are from 9 to 12 miles in length, are the largest lakes.

92. The lake system with which Grand Lake is connected is drained by the Shubenacadie, and also by a stream flowing southerly to Halifax Harbour. A large amount has been expended on a canal through these streams and lakes, to connect Halifax Harbour with Cobequid Bay.

EXERCISE.—Lay down the rivers and lakes on the map of Nova Scotia.

IX. Soil.—93. On the north of the central water-shed the soil is generally very fertile. The southern side of the Province is not usually so well adapted to agricultural pursuits.

The interval soils along the margins of the rivers are very fertile, yielding large crops of hay. Most of the streams flowing into the head waters of the Bay of Fundy are bordered along their lower course by marsh, which is protected from the sea by dikes.

It is estimated that about half the area of the Province consists of wild or forest land owned by the Government, and that one-sixth of this is fit for cultivation.

X. Climate.—94. The climate of Nova Scotia is temperate and salubrious. The summer is hot; the winter is long, with much severe cold.

The ground is covered with snow much of the time from the middle of December to the middle of March. Spring advances slowly. A chilly north-east wind, caused by ice in the Gulf of St. Lawrence, prevails in April and May. Vegetation, promoted by seasonable rains, is very rapid, there being only three or four months between seed-time and harvest. Autumn is a delightful season.

The extreme of heat is 95° above zero; of cold 24° below; the mean annual temperature 44°. (*See North America*, 33.)

XI. Minerals.—95. The minerals of Nova Scotia are varied and of great importance, including *coal, iron, gold, copper, manganese, lime, gypsum, salt, granite, sandstone, slate, and marble.*

96. Coal fields are very extensive in the east and north. The most important mines are in Cape Breton, Pictou, and Cumberland. The total quantity raised annually is about 650,000 tons. The thickest coal seam known in the Province is at the *Albion Mines* in Pictou County, having an average thickness of 38 feet.

97. Iron ore of a superior quality is abundant. The only mine worked is on the south side of the Cobequid Mountains in Colchester.

98. Gold is obtained from quartz found on the Atlantic slope. Several mines are worked in Halifax and Hants Counties. The amount obtained annually is worth about \$500,000.

XII. Plants.—99. The native forests are yet extensive. The most important trees are pine, spruce, hemlock, birch, oak, maple, birch, and ash.

Oats, barley, rye, wheat, maize, potatoes, turnips, and hay are the most important field crops.

The principal fruits are apples, pears, and plums.

Wheat is most extensively cultivated in the eastern counties. Maize and apples are most abundantly raised in the valley between the North and South Mountains.

XIII. Animals.—100. The larger wild animals, as the *moose, caribou, and bear*, are becoming less numerous. The *wild cat, fox, and raccoon* are among the smaller quadrupeds.

Horses, cattle, and sheep are numerous, and large dairies are kept in many parts.

The coast waters teem with fish, including the *cod, halibut, shad, mackerel, salmon, and herring.*

XIV. Inhabitants.—101. The population in 1861 was 330,857. It is now probably not less than 350,000. The inhabitants are generally of British and Irish descent.

The Acadians number about 20,000; the Negroes 6000; and the Indians 1500. In Lunenburg County there are many of German origin.

102. The public schools are free to all over five years of age, and few countries can boast of a more perfect educational system.

The schools are sustained by provincial endowment, graded according to the class of teacher; county assessment, distributed according

to average attendance; and sectional assessment. The system provides an Academy for each county. All schools are visited semi-annually by inspectors.

The general control of educational matters is committed to a Superintendent and a Council of Public Instruction.

A Normal School for the training of teachers is sustained by legislative endowment.

The total amount expended on the public schools in 1866 was about \$350,000; the amount expended on colleges was over \$46,000;—making a total for education of nearly \$400,000. About one-third of this amount was paid from the provincial treasury. The amount paid from the treasury in 1867 was over \$160,000. It is estimated that over 70,000 different children were at school during some portion of the year.

103. There are five Colleges:—

King's, belonging to the Episcopalians; *Acadia*, to the Baptists; *Dalhousie*, provincial; *St. Mary's* and *St. Francis Xavier's*, to the Roman Catholics. The Wesleyan college at Sackville, N. B., receives a grant from Nova Scotia.

104. About one-fourth the population are *Roman Catholics*, one-fourth *Presbyterians*, one-sixth *Baptists*, one-seventh *Episcopalians*, and one-tenth *Wesleyans*. All religious denominations have equal civil privileges.

XV. Divisions.—105. Nova Scotia is divided into eighteen counties, fourteen in the Peninsula and four in Cape Breton.

The counties are subdivided into *townships*.

The following are the eighteen counties, with their chief towns. The county towns are in black letter:—

SIX COUNTIES ON THE ATLANTIC

Counties.	Chief Places.
GUYSBOROUGH.....	Guysboro', Canso, Sherbrooke, Port Mulgrave.
HALIFAX.....	Halifax, Dartmouth, Bedford, Tangier.
LUNenburg.....	Lunenburg, Chester, Bridgewater, New Dublin.
QUEEN'S.....	Liverpool, Port Medway, Milton, Mill Village.
SHELburne.....	Shelburne, Barrington, Locke's Island.
YARMOUTH.....	Yarmouth, Tusket, Hebron.

FOUR COUNTIES ON THE BAY OF FUNDY

DIGBY.....	Digby, Weymouth, Westport, Bear River.
ANNAPOLIS.....	Annapolis, Bridgetown, Lawrencetown.
KING'S.....	Kentville, Wolfville, Port Williams, Canning, Berwick, Kingston.
HANTS.....	Windsor, Hantsport, Maitland, Shubenacadie.

FOUR COUNTIES ON NORTHUMBERLAND STRAIT

CUMBERLAND.....	Amherst, Pugwash, Wallace, Parraboro'.
COLCHESTER.....	Truro, Upper Stewiacke, Lower Stewiacke Station, Tatamagouche, Acadia Mines, Great Village, Folly Village.
PICTOU.....	Pictou, New Glasgow, Albion Mines.
ANTIGONISH.....	Antigonish, St. Andrew's, Tracadie.

FOUR COUNTIES IN CAPE BRETON

INVERNESS.....	Port Hood, Mabou, Ship Harbour, Plaster Cove.
VICTORIA.....	Baddeck, English Town.
CAPE BRETON.....	Sydney, The Bar, Lungan.
RICHMOND.....	Arichat, Little Arichat.

EXERCISE.—Mark the division lines between the counties, and lay down the chief places on the map of Nova Scotia.

XVI. Towns.—106. Halifax, the capital of Nova Scotia,

is the only city. Small towns, having from 1000 to 4000 inhabitants, are numerous. (*See 105, Chief Places.*)

Halifax (30,000) was founded in 1749. It has a large and safe harbour on the Atlantic coast, and is strongly fortified. It is the seat of Dalhousie and St. Mary's Colleges. The Province Building or Parliament House is a fine stone building. The city is connected with Annapolis by the Western railroad, and with Truro and Pictou by the Eastern, and is the terminus of the projected Intercolonial road to communicate with the Grand Trunk in Quebec.

Dartmouth, on the opposite side of the harbour, may be regarded as a suburb of Halifax. In its neighbourhood is the Lunatic Asylum.

107. *Lunenburg*, *Liverpool*, and *Shelburne*, on the Atlantic, are important towns, engaged in fishing, ship-building, and trade.

Yarmouth, the largest town in the west, is extensively engaged in ship-building and commerce. It is noted for its fine public schools.

Annapolis, the *Port Royal* of the French, is the oldest town in Nova Scotia. Both it and Digby are beautifully situated on opposite extremities of Annapolis basin.

108. *Wolfville* is the seat of Acadia College; *Windsor*, of King's College; *Truro*, of the Provincial Normal College; *Antigonish*, of St. Francis Xavier's College.

Pictou and *New Glasgow* are important commercial and ship-building towns. Large quantities of coal are shipped from Pictou harbour.

Sydney, the former capital of Cape Breton, has an excellent harbour, from which large quantities of superior coal are exported. *Arichat*, on Isle Madame, is the head-quarters of valuable fisheries.

XVII. Industries.—109. The principal pursuits are agriculture, fishing, mining, ship-building, lumbering, manufactures and commerce.

The counties north of the central water-shed are most extensively engaged in agriculture; the Atlantic counties and those of Cape Breton, in the fisheries. Ship-building is prosecuted on all the coasts. In 1866 over 400,000 tons of shipping were owned in Nova Scotia.

The manufactures are rapidly increasing. They include hardware, boots and shoes, carriages, and farming tools.

110. The exports include fish, coal, gold, gypsum, potatoes, apples, ships, and lumber;—total value, \$3,500,000.

The imports include flour, tropical produce, liquors, silks, woollens, cottons, and various manufactured goods;—total value, \$14,400,000.

111. The railroads are, the Eastern line, from Halifax to Pictou—110 miles; and the Western line, from Halifax to Annapolis—130 miles. The Intercolonial line will connect the Eastern line, near Truro, with the Grand Trunk line in Quebec.

XVIII. Government.—112. The local government is vested in a Lieutenant-Governor, appointed by the Governor-General of Canada, and an Executive Council.

The Legislature consists of the Lieutenant-Governor, a Legislative Council of 18 members, and a House of Assembly of 38 members, elected every four years.

113. The Provincial Legislature has control over local matters, such as the administration of justice, education, public lands, mines, and minerals.

The revenue arises from the sale of public lands, royalty on minerals, and an annual grant of \$60,000, together with 80 cents per head on the population, from the revenue of Canada.

QUESTION.—A vessel sails from Pictou to Wolfville; through what waters does it pass, and what freight will it probably carry?



ST. JOHN.

NEW BRUNSWICK.

I. History.—114. New Brunswick became a separate Province in 1784. The first British settlements were formed about twenty years earlier. The population was largely increased at the close of the American Revolution by disbanded soldiers and Loyalists.

Some of the most flourishing early settlements were along the valley of the Miramichi, on the east. In 1825 this whole coast, including an area equal to the third of Nova Scotia, was desolated by one of the most terrible fires on record. Five hundred persons lost their lives, and a vast amount of property was destroyed. (*See Nova Scotia*, 76.)

II. Position.—115. New Brunswick is bounded on the north by Quebec and Bay Chaleur; on the east, by the Gulf of St. Lawrence and Northumberland Strait; on the south, by Nova Scotia, Chignecto Bay, and the Bay of Fundy; on the west, by the United States and Quebec.

It is in the same latitude as the middle of France. N. lat. 45° — 48° ; W. lon. 63° $30'$ — 67° $50'$.

III. Form.—116. The form is that of a four-sided figure, having its greatest length north and south.

EXERCISE.—Draw the general form of New Brunswick.

IV. Coast.—117. Two sides, the east and the south, are

bordered by the sea, giving 500 miles of coast, and furnishing many excellent harbours.

The principal **Coast Waters** are—

Chaleur Bay, Miramichi Bay, Kouchibouguac Bay, Shediac Harbour, Bay Verte, Chignecto Bay, Shepody Bay, Bay of Fundy, St. John Harbour, and Passamaquoddy Bay.

118. The **Capes** are, *Escuminac, Tormentine, Spencer, and Lepreau.*

The **Islands** are, *Miscou and Sheppean*, at the mouth of Bay Chaleur; *Grand Manan*, in the Bay of Fundy; and *Campobello*, in Passamaquoddy Bay.

The coast on the Bay of Fundy is generally elevated and rocky.

EXERCISE.—Trace the outline of New Brunswick, marking the coast waters, capes, and islands.

V. Area.—119. New Brunswick is one and a half times the size of Nova Scotia:

—equal to a square of 163 miles.

The length from north to south is about 200 miles; the breadth from east to west, 160 miles.

VI. Surface.—120. The surface is generally undulating. The highest mountains are in the north-west, rising to the height of 2000 feet. They form the north-eastern limit of the Appalachian System. (*See North America*, 19.)

The principal watershed extends through the country from north-

west to south-east, separating the streams which flow to the Gulf and Northumberland Strait from those which flow into the Bay of Fundy.

The basin of St. John has a general slope towards the south-east.

VII. Rivers.—121. The rivers may be arranged in two groups:—

Those on the Gulf slope, including the *Restigouche*, *Nepisiguit*, and *Miramichi*; those on the Bay of Fundy slope, the principal being the *Peticodiac*, *St. John*, *Tobique*, *Salmon*, and *St. Croix*.

122. *Restigouche* is an Indian name, signifying *the five fingers river*, the river having five principal tributaries. It forms a part of the boundary between New Brunswick and Quebec, and is about 200 miles in length.

The *Miramichi*, also about 200 miles long, is an important stream, with flourishing villages along its banks.

The *Peticodiac* is navigable 25 miles.

123. The *St. John* is by far the largest river in New Brunswick. It rises in the State of Maine, receives several tributaries from Quebec, and has a total length of about 450 miles. It is navigable 85 miles to Fredericton; and in the rainy season to Grand Falls, 225 miles. The *St. John* and *St. Croix* form portions of the boundary between New Brunswick and the United States.

VIII. Lakes.—124. Small lakes are numerous. *Grand Lake*, an expansion of the *Salmon River*, is about 30 miles in length.

EXERCISE.—Lay down the rivers and lakes on the outline map of New Brunswick.

IX. Soil.—125. The soil is generally fertile, particularly in the river valleys.

X. Climate.—126. The climate is very healthful, and much like that of Nova Scotia. Winter sets in rather earlier than in Nova Scotia, and the cold is more intense. The Bay of Fundy coast is subject to fogs in summer.

XI. Minerals.—127. The most important minerals are coal, iron, copper, and lime.

The coal fields are very extensive and valuable.

XII. Plants.—128. A large part of the country is still covered with forests, yielding excellent timber. The native trees include pine, spruce, larch, cedar, oak, beech, maple, and birch.

The products of the field are like those of Nova Scotia.

XIII. Animals.—129. The wild animals are like those of Nova Scotia.

XIV. Inhabitants.—130. The population in 1861 was 252,000. Most of the inhabitants are of British and Irish origin.

131. New Brunswick makes liberal provision for general education.

Nearly \$150,000 per annum are given from the provincial treasury towards the support of common schools, academies, and colleges. The amount raised by fees, subscription, and assessment, is over \$100,000. Teachers are trained at the Normal School in St. John, and the schools are inspected by local superintendents. The Educational Department is under the control of a Chief Superintendent, aided by a Board of Education.

The higher institutions of learning are the University of New Brunswick, at Fredericton; Mount Allison Academy, at Sackville; and other academies belonging to the Baptists, Presbyterians, and Roman Catholics.

XV. Divisions.—132. New Brunswick is divided into fourteen counties:—

FIVE COUNTIES ON THE EAST COAST.

Counties.	Chief Places.
RESTIGOUCHE.....	Dalhousie, Campbelltown.
GLoucester.....	Bathurst.
NORTHUMBERLAND.....	Newcastle, Chatham, Douglastown.
KENT.....	Richibucto, Buctouche.
WESTMORELAND.....	Dorchester, Moncton, Shediac, Sackville.

THREE COUNTIES ON THE SOUTH COAST.

ALBERT.....	Hopewell, Hillsboro'.
ST. JOHN.....	St. John, Carleton.
CHARLOTTE.....	St. Andrew's, St. Stephen's.

THREE COUNTIES IN THE INTERIOR.

KING'S.....	Kingston, Hampton, Sussex.
QUEEN'S.....	Gagetown.
SUNBURY.....	Oromocto.

THREE COUNTIES IN THE WEST.

YORK.....	Fredericton, Stanley.
CARLETON.....	Woodstock.
VICTORIA.....	Grand Falls.

EXERCISE.—Mark the county lines and chief places on the map of New Brunswick.

XVI. Towns.—133. Fredericton is the capital; St. John, the principal city.

Fredericton (6000) is beautifully situated amid encircling hills, beside the River St. John. It contains the University of New Brunswick. *St. John* (25,000), on a rocky peninsula at the mouth of the St. John, has a fine harbour open at all seasons. Large quantities of lumber and lime are exported from St. John. *Carleton*, a suburb on the opposite side of the river, is connected with St. John by a suspension bridge. It contains the Lunatic Asylum.

134. *Chatham* and *Newcastle*, on the *Miramichi*, are important places, extensively engaged in ship-building.

St. Stephen's on the St. Croix, and *St. Andrew's* on Passamaquoddy Bay are also important towns.

Sackville, near the head of Cumberland Basin, is the seat of Mount Allison College and Female Seminary. The college receives a grant from Nova Scotia.

XVII. Industries.—135. The principal employments are agriculture, lumbering, fishing, ship-building, manufacturing, and commerce.

Since the first settlement of the country, lumbering has formed an

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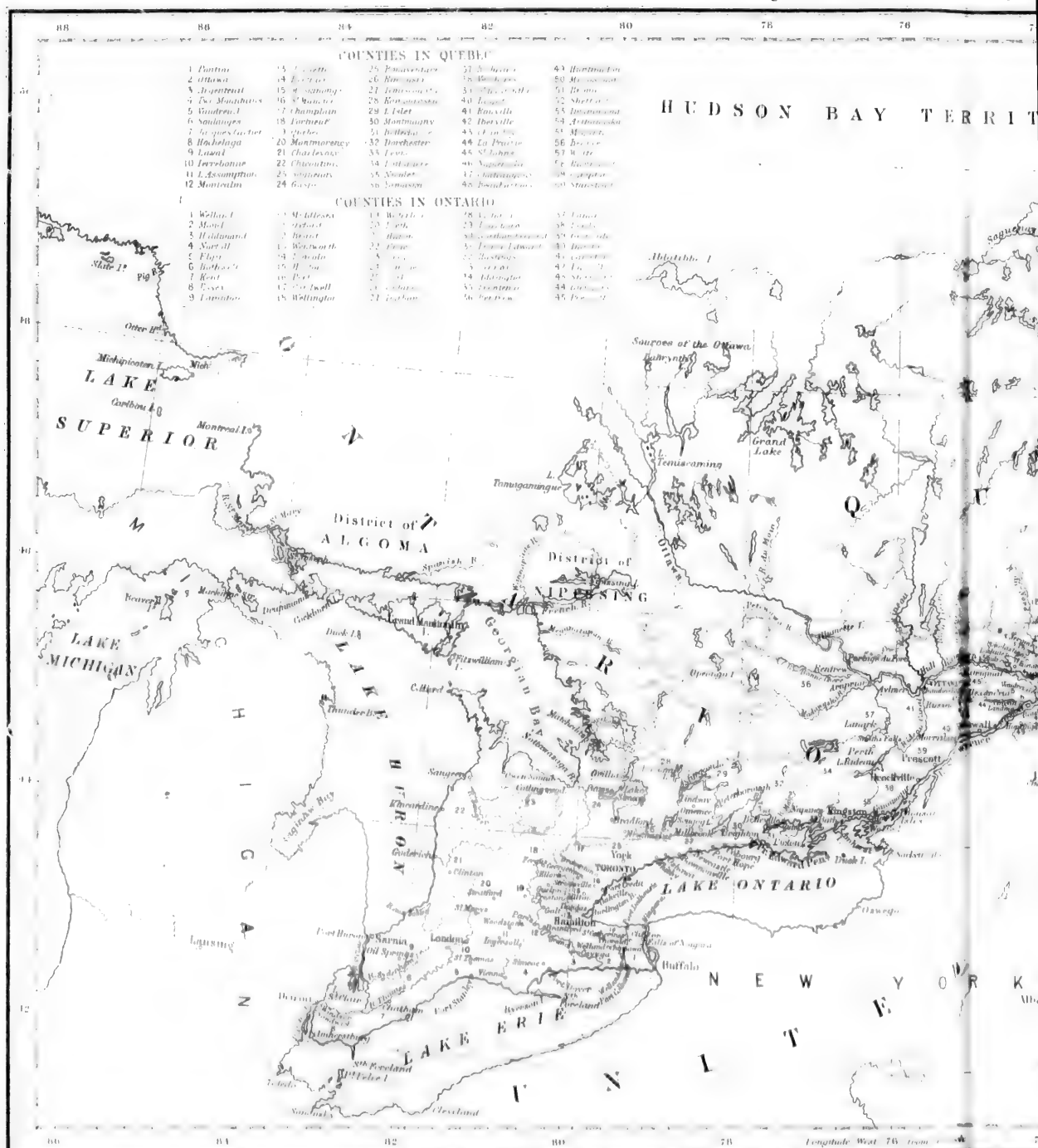
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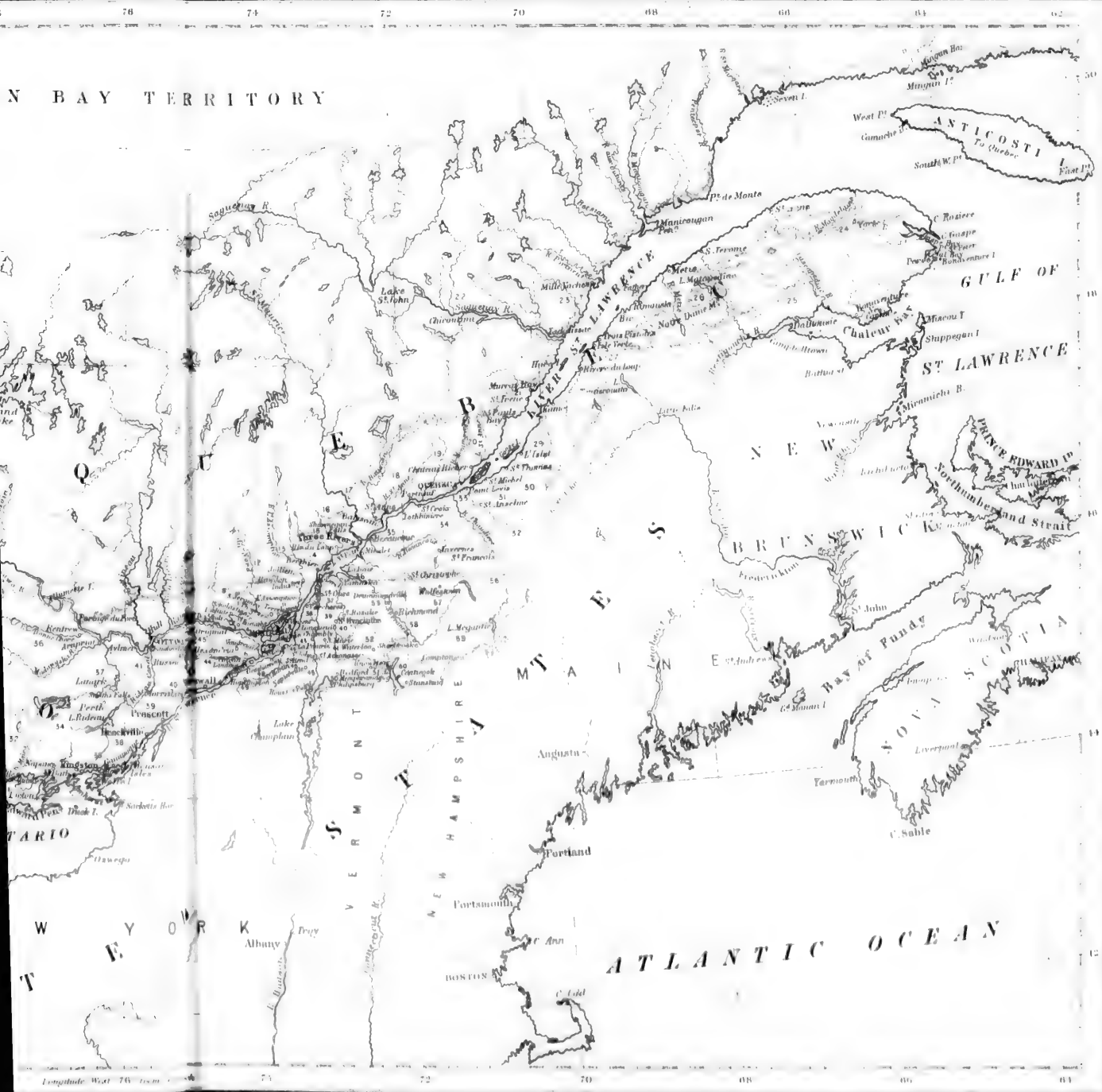
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important branch of industry. The logs are brought down the rivers in rafts.

The manufactures include woollens, cottons, leather, and hardware.

The principal exports are lumber, fish, and lime;—annual value \$6,500,000.

The imports are like those of Nova Scotia, —value \$7,000,000.

136. A railroad extends from St. John to Shediac, on the Northumberland Strait, 115 miles; and one from St. Andrew's to Woodstock, 100 miles. The Intercolonial line will pass through New Brunswick.

XVIII. Government.—137. The local government is similar to that of Nova Scotia. The Legislative Council consists of 21 members; and the House of Assembly of 41 members, elected every four years.

138. The grant from the revenue of Canada is \$50,000, 80 cents per head on the population, and an additional sum of \$63,000 for the first ten years after the union.



QUEBEC.

QUEBEC.

I. History.—139. This Province was formerly called Lower Canada; it received its present name in the constitution of union in 1867.

The Province of Quebec was called by its present name from 1763 to 1791.

Cartier, a French admiral, sailed up the St. Lawrence in 1535. The first colony was established by Champlain, also a Frenchman, in 1608, where the city of Quebec now stands; and during the succeeding century and a half many colonists from France settled along the banks of the St. Lawrence.

140. Whilst held by the French, the territory now included in the Provinces of Quebec and Ontario formed one colony under the name of Canada, sometimes also called New France. In 1759, the British took the principal places, including the strongly fortified town of Quebec, which was regarded as the key to the whole country. In 1763, France ceded the country to Great Britain.

At the commencement of the American Revolution an invading

army from the revolting colonies was sent into the Province of Quebec, but was soon compelled to retreat.

141. In 1791, the country was divided into the Provinces of Upper and Lower Canada. They remained separate until 1840, when, by Act of the British Parliament, they were reunited into one Province. For several years previous to this union the country had been distracted by political contests, which resulted in a civil war of short duration (1837, 1838).

II. Position.—142. The Province of Quebec lies on both sides of the St. Lawrence, from a short distance above the mouth of the Ottawa to the Gulf. It is bounded on the north by Hudson Bay Territory; on the east by the Gulf of St. Lawrence; on the south by Bay Chaleur, New Brunswick, and the United States; on the west by Ontario.

The Ottawa separates Quebec and Ontario, except for a few miles near its mouth, where Quebec crosses the river and includes the right bank.

N. lat. 45°—50° W. lon. 64°—79°.

III. Form.—143. The form is triangular, with one side on the north, one on the south-east, and one on the south-west.

EXERCISE.—Draw the approximate form of Quebec.

IV. Coast.—144. The coast is confined to the Gulf of St. Lawrence and Bay Chaleur, on the north-east.

It is blocked with ice in the winter, so that navigation is suspended for several months in the year.

The principal Bays are, *Chaleur, Mal, and Gaspé.*

The Capes are, *Point St. Peter, Cape Gaspé, Point de Monts, Tourment, and West Point.*

145. The Islands are, *Anticosti, Bonaventure, and Magdalen Is.*, in the Gulf of St. Lawrence; *Orleans, Montreal, Jesus, and Perrot*, in the St. Lawrence.

Anticosti, about three-fourths the size of Cape Breton, is cold, barren, and uninhabited.

The Magdalen Islands, 50 miles north of Prince Edward Island, are high and rugged. The inhabitants, numbering about 3000, are chiefly of French descent. Fishing is the principal occupation.

Montreal, at the confluence of the Ottawa with the St. Lawrence, is about 30 miles in length. It is generally low, except the elevation called *Mount Royal*. It is noted for apples and pears, and contains the city of Montreal.

EXERCISE.—Trace the boundary line of Quebec, marking coast waters, capes, and islands.

V. Area.—146. Quebec is rather more than eleven times the size of Nova Scotia:

—equals a square of 453 miles.

VI. Surface.—147. The surface is considerably diversified, but not mountainous. The principal mountains are two ranges in the north-east, along the lower course of the St. Lawrence, one on each side of the river.

148. The ridge on the south side of the river, belonging to the Appalachian System, continues through the peninsula of Gaspé, where it is known as the *Notre Dame*. Some of the peaks are nearly 4000 feet high.

On the north of the river are the *Laurentine Hills*, extending from the Gulf to Cape Tourment, 20 miles below the city of Quebec. From this point the range strikes north-westerly towards Lake Superior. These hills often present a bold appearance along the river. Cape Tourment is 2000 feet high.

EXERCISE.—Lay down the mountains on the map of Quebec.

VII. Rivers.—149. The noble *St. Lawrence* and its tributaries make much compensation for the absence of sea-coast. The largest tributaries are on the north. The *Ottawa, St. Maurice, and Saguenay* are the most important. The principal tributaries on the south are the *Richelieu, St. Francis, and Chaudière.*

150. The St. Lawrence forms several lake expansions, as *St. Francis, St. Louis, and St. Peter*. The river is navigable for large ships to

Montreal, 580 miles. In winter, vast masses of ice are formed in the river, which are swept into the Gulf in early spring.

151. The *Ottawa* is said to be about 1000 miles long. It also forms several lakes, of which *Temiscaming*, 70 miles long, is the largest. Falls and rapids are frequent. The *Chaudière Falls* have a descent of 80 feet, and a breadth of 200 feet. By the help of canals, the river is navigable to Ottawa City, 100 miles. The principal tributaries on the right are the *Gatineau, Le Lievre, Du Nord, and L'Assomption.*

152. The *St. Maurice* rises in lakes, has an extreme length of 400 miles, and enters the St. Lawrence by three mouths. It forms many lakes and waterfalls. The *Falls of Shawanegan* have a descent of 150 feet. The banks of the river are often elevated, and are clothed with majestic forests.

153. The *Saguenay* flows from *Lake St. John*, and is about 100 miles long. About 60 miles from the mouth is a beautiful expansion called *Ha-Ha Bay*. The river is navigable 75 miles. The banks are often perpendicular rocks of great height.

154. The *Montmorency*, flowing into the St. Lawrence a little below Quebec, is noted for the falls near its mouth, the water falling 250 feet.

The *Richelieu*, 75 miles long, flows from *Lake Champlain*.

VIII. Lakes.—155. Lakes are very numerous. (See *Rivers*, 149.)

The most important on the south of the St. Lawrence are, *Memphremagog, Temiscouata, and Megantic*. The northern extremity of *Champlain* is in the Province of Quebec.

EXERCISE.—Lay down the rivers and lakes on the map of Quebec.

IX. Soil.—156. The soil in the eastern part of the Province is not well adapted to agriculture; the west is more fertile.

X. Climate.—157. The winter is long, with steady, severe cold. Deep snow protects the ground, and affords a pleasant mode of travelling. The St. Lawrence is frozen for about five months. The summer is hot, and vegetation is rapid. The climate is healthful.

XI. Minerals.—158. The principal minerals are iron, copper, gold, lead, lime, and slate.

Gold is found along the *Chaudière*.

XII. Plants.—159. The settled portion of this Province is principally a narrow country along the valley of the St. Lawrence. Beyond are vast forests of pine, spruce, cedar, oak, maple, birch and other trees.

The cultivated plants are the same as in Nova Scotia.

XIII. Animals.—160. The animals are like those of Nova Scotia. The moose, bear, and wolf are more common.

XIV. Inhabitants.—161. The population in 1861 was 1,100,000. Nearly three-fourths are of French origin. Those of British descent are more numerous in the south-eastern counties.

The French inhabitants are a people of industrious habits and simple manners, similar to the Acadians of Nova Scotia. Nearly all are Roman Catholics.

There are 4000 or 5000 Indians, most of whom live on reserved lands. 162. Common schools are numerous and well sustained. They are visited by twenty-seven local inspectors. There are three Normal Schools, two at Montreal and one at Quebec. The Educational Department is under the supervision of a superintendent.

163. There are three Universities in the Province of Quebec,—*M'Gill College*, Montreal; *Laval College*, Quebec; and *Bishop's College*, Lennoxville. Classical and industrial colleges, academies, and theological schools are numerous.

XV. Divisions.—164. The Province of Quebec is divided into sixty *counties*:—

SIX COUNTIES ON THE OTTAWA.

Counties.	Chief Places.
PONTIAC.....	Portage du Fort.
OTTAWA.....	Aylmer, Hull.
ARGENTEUIL.....	Lachute, St. Andrews.
TWO MOUNTAINS.....	St. Scholastique, St. Eustache.
VAUDREUIL.....	Vaudreuil.
SOULANGES.....	Coteau Landing.

TWO COUNTIES ON MONTREAL ISLAND.

JACQUES CARTIER.....	Lachine.
HOCHELAGA.....	Montreal.

ONE COUNTY ON ISLES JESUS AND BIZARRE.

LAVAL.....	St. Vincent de Paul.
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FOURTEEN COUNTIES NORTH OF THE ST. LAWRENCE.

TERREBONNE.....	Terrebonne, St. Jerome, Ste. Therese.
L'ASSOMPTION.....	L'Assomption.
MONTCALM.....	Rawdon.
JOLLIETTE.....	Industry.
BERTHIER.....	Berthier.
MASKINONGE.....	Riviere du Loup.
St. MAURICE.....	Three Rivers.
CHAMPLAIN.....	Batiscan, St. Anne.
PORTNEUF.....	Portneuf.
QUEBEC.....	Quebec.
MONTMORENCY.....	Chateau Richer.
CHARLEVOIX.....	St. Iréné.
CHICOUTIMI.....	Chicoutimi.
SAGUENAY.....	Tadoussac.

THIRTY-SEVEN COUNTIES SOUTH OF THE ST. LAWRENCE

GASPE.....	Percé.
BONAVENTURE.....	New Carlisle.
RIMOUSKI.....	Rimouski.
TEMISCOUATA.....	Trois Pistoies.
KAMOURASKA.....	Kamouraska.
L'ISLET.....	L'Islet.
MONTMAGNY.....	St. Thomas.
BELLECHASSE.....	St. Michel.
DORCHESTER.....	St. Anselme.
LEVIS.....	Point Lévis.
LOTBINIERE.....	Lotbiniere, St. Croix.
NICOLET.....	Becancour, Nicolet.
YAMASKA.....	Yamaska, La Baie.
RICHELIEU.....	Sorel, St. Ours.
VERCHERES.....	Vercheres.
St. HYACINTH.....	St. Hyacinth.
BAGOT.....	St. Liboire.
ROUVILLE.....	Ste. Marie.
IBERVILLE.....	St. Athanase.

Counties.	Chief Places.
CHAMBLY.....	Chambly, Longueil.
LA PRAIRIE.....	La Prairie, Caughnawaga.
St. JOHN'S.....	St. John's.
NAPIERVILLE.....	St. Remi, Sherrington.
CHATEAUGUAY.....	Ste. Martine, Chateaugay.
BEAUHARNOIS.....	Beauharnois.
HUNTINGDON.....	Huntingdon.
MISSISQUOI.....	Bedford, Philipsburg.
BROME.....	Knowlton.
SHEFFORD.....	Waterloo.
DRUMMOND.....	Drummondville.
ARTHABASKA.....	St. Christophe.
MEGANTIC.....	Inverness.
BEAUCÉ.....	St. François, La Beauce.
WOLFE.....	Wolfestown.
RICHMOND.....	Richmond, Sherbrooke.
COMPTON.....	Compton.
STANSTEAD.....	Stanstead, Coaticook.

The last eleven are usually called *Eastern Townships*.

EXERCISE.—Mark the county lines and principal places on the map of Quebec.

XVI. Towns.—165. The cities of the Province of Quebec are *Quebec*, *Montreal*, *Three Rivers*, and *St. Hyacinth*. There are many small towns and villages. (See 164.)

166. **QUEBEC** (51,000), the capital of the Province, is on the left bank of the St. Lawrence, 400 miles from its mouth. It consists of an upper town on the summit of a promontory, and a lower town adjoining the river, where the chief commerce is carried on. The city is strongly fortified. The citadel stands on Cape Diamond, which is 350 feet above the river. The lumber trade and ship-building are important branches of business. Near the upper town are the Plains of Abraham, the scene of the battle by which the British gained possession of the city in 1759. On the opposite side of the river is the village of Point Lévis; and a little below the city are the Falls of Montmorency.

167. **Montreal** (110,000), the largest city in British America, is situated on Montreal Island, in the St. Lawrence, 580 miles from its mouth. The city stands at the head of ship navigation, and much of the produce of the surrounding country and of the Upper Province is brought here for exportation. There are many fine public buildings. Notre Dame Cathedral is said to be capable of holding 10,000 people. Near the city is the stupendous Victoria Bridge, by which the Grand Trunk Railway crosses the river. It is nearly two miles in length, and is 60 feet high in the centre, allowing vessels to pass under it.

Three Rivers (6000), at the threefold mouth of the St. Maurice, is an old French town 90 miles above Quebec. Its iron works and lumber trade are important.

XVII. Industries.—168. The principal pursuits are agriculture, lumbering, fishing, ship-building, manufacturing, and commerce.

Immense quantities of lumber are brought down the rivers, in rafts, to Montreal and Quebec, for exportation.

The **exports** are, lumber, agricultural and dairy produce, fish, furs, ashes, minerals, manufactures, and ships.

The **imports** are, woollens, cottons, silks, iron, coal, tropical produce, and various manufactured goods.*

169. A line of railway, called the Grand Trunk, extends along the south bank of the St. Lawrence, from Riviere du Loup, 114 miles

* Total value of exports from Quebec and Ontario, in 1897, was about \$48,500,000; imports, \$50,000,000.

below Quebec, to Montreal, and thence through Ontario to Sarnia, at the south of Lake Huron. A branch extends southerly to Portland on the coast of the United States. (*See Nova Scotia, 111.*)

XVIII. Government.—170. The government is similar to that of Nova Scotia.

The Legislative Council consists of 24 members; and the Assembly of 65.

The grant from the revenue of Canada is \$70,000, and 80 cents per head on the population, according to the census of 1861.

EXERCISE.—Find the distance between Quebec and Fredericton. When it is noon at Montreal, what is the time at Charlottetown?



TORONTO.

ONTARIO.

I. History.—171. At the time of the American Revolution, many of the inhabitants of the revolting colonies, preferring British institutions, sacrificed their homes and removed to Canada. They were called *United Empire Loyalists*. Coming entirely destitute, as all their property had been confiscated, they received free grants of land and supplies from the British Government.

172. A large number of the Loyalists settled along the upper course of the St. Lawrence and in the neighbourhood of the great lakes, apart from the French, who were nearer the Gulf. The two colonies, differing in race, language, customs, and religion, were, in 1791, divided into the Provinces of Upper and Lower Canada. (*See Quebec, 139-141.*)

II. and III.—173. Ontario lies between the great lakes and the Ottawa. It is of a triangular form, having Hudson Bay Territory and Quebec on the north-east; the St. Lawrence and Lakes Ontario and Erie on the south-east; Lakes Huron and Superior on the south-west.

It extends 100 miles farther south than Nova Scotia, and 200 miles further north.

EXERCISE.—Draw the general form of the Province of Ontario.

IV. Coast.—174. Ontario is quite remote from the sea, but it has an extensive lake coast.

The principal **Bays** are, *Michipicoten, Georgian, Nottawasaga, Burlington, and Quinté.*

The **Capes** are, *North Foreland, South Foreland, and Cape Hurd.* The lakes form a large peninsula in the south-west. Quinté Bay forms the peninsula of *Prince Edward County*, on the north of Lake Ontario.

175. The **Islands** are, *Michipicoten and Caribou*, in Lake Superior; *Manitoulin, Cockburn, St. Joseph, and Fitzwilliam*, in Huron; *Point Pelée and Ryerson*, in Erie; *Navy*, in Niagara River; *Amherst, Ponti, Wolfe, and Howe*, in Ontario; *Thousand Isles*, in the St. Lawrence.

176. Manitoulin consists of a group, the largest of which is 80 miles long, with an area half the size of Cape Breton. It is occupied by Indians.

The Thousand Isles are in the upper part of the St. Lawrence, including about 1700 islets of great beauty.

EXERCISE.—Draw an outline map of Ontario.

V. Area.—177. Ontario is nearly ten times the size of Nova Scotia :

—equal to a square of 425 miles.

VI. Surface.—178. The surface is level or gently undulating, without any elevations which can properly be called mountains.

A ridge extends westerly from Niagara River, and, trending around the head of Lake Ontario, runs northerly to Nottawasaga Bay. A low water-shed separates the basins of the streams flowing northerly into Georgian Bay and Lake Simcoe, from a southerly slope towards Lake Ontario. Another separates the basin of the Ottawa from an easterly slope towards Georgian Bay.

VII. Rivers.—179. The principal rivers are, the *St. Lawrence*, the *Ottawa*, with its tributaries (the *Rideau*, *Madawaska*, *Bonnechere*, and *Petewahoch*); *French*, *Megantic*, *Muskota*, *Severn*, and *Nottawasaga*, flowing into Georgian Bay; *Sageen*, into Lake Huron; *Sydenham* and *Thames*, into Lake St. Clair; *Grand*, into Lake Erie; *Trent* and *Moire* into Quinté Bay.

180. The *St. Mary*, connecting Lakes Superior and Huron; the *St. Clair*, between Lakes Huron and St. Clair; the *Detroit*, between Lakes St. Clair and Erie; the *Niagara*, 34 miles long, between Erie and Ontario; and the *St. Lawrence*, form portions of the boundary between Ontario and the United States.

181. The *Falls of Niagara*, 14 miles from Lake Ontario, are the grandest and most celebrated falls in the world. The river is over half a mile in breadth. In the rapids immediately above the falls, the descent is 57 feet in half a mile; and at the falls, the waters, rushing over a ledge of rocks, fall 165 feet. The river is here divided by Goat Island. The *Horse Shoe Falls*, on the Canadian side, have a breadth of 1900 feet; the falls adjoining the United States are about half as wide. A short distance below the falls, the river is spanned by a suspension bridge, connecting railway lines on opposite sides. The obstruction to navigation caused by the falls is overcome by the Welland Canal.

182. The St. Lawrence, from Lake Ontario to the Gulf, is 750 miles in length. From Lake Ontario to Montreal, 200 miles, the descent is 230 feet, a large part of which is included in rapids—the *Chateaus* and *Long Sault* being the principal. Vessels pass through the rapids in descending the river, the up-passage is aided by canals.

VIII. Lakes.—183. The lake system drained by the St. Lawrence is the most important in the world. *Superior*, *Huron*, *St. Clair*, *Erie*, and *Ontario* are between Ontario and the United States. (See *North America*, 27, 28.)

Superior is 600 feet above the sea and 900 feet deep; Huron, 575 feet above the sea and 1000 feet deep; Erie, 505 feet above the sea and 100 feet deep; Ontario, 232 feet above the sea and 500 feet deep.

184. Excepting the bays and coasts, the great lakes remain open during the winter. They are of great importance to trade, and contain valuable fisheries. Erie is subject to violent storms.

There are many small lakes in Ontario, as *Simcoe*, *Nipissing*, and *Temiscaming*.

EXERCISE.—Lay down the rivers and lakes on the map of Ontario.

IX. Soil.—185. The soil is generally very fertile. Ontario is one of the best agricultural countries in the world.

X. Climate.—186. The climate is healthful. The winter is shorter, and the extremes of heat and cold are rather less than in the Province of Quebec. In the south-western peninsula grapes and peaches are cultivated.

XI. Minerals.—187. Copper is very abundant near Lake Superior. The other minerals are iron, lime, gypsum, and peat. Petroleum, or rock-oil, is abundant in the district south of Lake Huron. It is obtained by boring into the earth.

XII. Plants.—188. The forests are of great extent, comprising oak, pine, walnut, maple, birch, cherry, cedar, and many other trees.

Wheat, corn, rye, and other grains are raised in abundance. The fruits are generally the same as in Nova Scotia. (See 186.)

XIII. Animals. (See *Quebec*, 160.)

XIV. Inhabitants.—189. The population in 1861 was 1,400,000. The inhabitants are principally of British origin. (See 171.)

Those of French origin number about 33,000.

The various Indian tribes comprise about 7800.

190. There are about 4500 common schools and 100 grammar schools in the Province, sustained in part from the public treasury, and inspected by local superintendents. Teachers are trained at the Normal School, Toronto; and untrained teachers are licensed by local boards.

Colleges and seminaries are numerous. There are four Universities—the *University of Toronto* and *Trinity College*, at Toronto; *Victoria College*, at Coburg; and *Queen's College*, at Kingston.

191. Over four-fifths of the inhabitants are Protestants; the remainder are Roman Catholics. Episcopalians, Methodists, and Presbyterians are the largest Protestant bodies.

XV. Divisions.—192. Ontario is divided into forty-two counties.

TWENTY-TWO COUNTIES IN THE PENINSULA

WELLAND.....	Welland, Port Colborne, Clifton, Chippawa.
HALDIMAND.....	Dunnville, Cayuga.
NORFOLK.....	Simcoe, Port Dover.
ELGIN.....	St. Thomas, Port Stanley, Vienna.
KENT.....	Chatham.
ESSEX.....	Sandwich, Windsor, Amherstham.
LAMBTON.....	Sarnia, Oil Springs.
MIDDLESEX.....	London.
OXFORD.....	Woodstock, Ingersoll.
BRANT.....	Brantford, Paris.
WENTWORTH.....	Hamilton, Dundas.
LINCOLN.....	St. Catherine's, Niagara, Thorold.
HALTON.....	Georgetown, Oakville, Milton.
PERKINS.....	Brampton, Streetsville, Port Credit.
WELLINGTON.....	Guelph, Elora, Fergus.

Counties.	Chief Places.
WATERLOO.....	Galt, Preston, Berlin.
PERTH.....	Stratford, St. Mary's.
HURON.....	Goderich, Clinton.
BRUCE.....	Saugeen, Kincardine.
GREY.....	Owen Sound, Durham.
SIMCOE.....	Barrie, Collingwood, Orillia.
YORK.....	Toronto, Newmarket, Bradford.

TWENTY COUNTIES NORTH OF LAKE ONTARIO AND THE ST. LAWRENCE.

ONTARIO.....	Whitby, Oshawa.
DURHAM.....	Port Hope, Newcastle, Bowmanville, Millbrook.
VICTORIA.....	Lindsay, Omemee.
PETERBOROUGH.....	Peterborough.
NORTHUMBERLAND.....	Cobourg, Brighton.
PRINCE EDWARD.....	Picton.
HASTINGS.....	Belleville.
LENNOX.....	Napanee.
ADDINGTON.....	Bath.
FRONTENAC.....	Kingston.
RENFREW.....	Renfrew, Arnprior.
LANARK.....	Perth, Smith's Falls.
LEEDS.....	Brockville, Gananoque.
GRENVILLE.....	Prescott.
DUNDAS.....	Morrisburg.
CARLETON.....	Ottawa.
RUSSELL.....	Russell.
STORMONT.....	Cornwall.
GLENORA.....	Alexandria.
PRESBURY.....	L'Original.

Nipissing and Algoma are extensive newly settled districts in the north-west.

EXERCISE.—Mark the county lines and chief places on the map of Ontario.

XVI. Towns.—193. The cities are *Ottawa, Toronto, Kingston, Hamilton, and London.* (For *Ottawa*, see 70.)

Toronto (45,000), formerly called *York*, is the capital and largest city of Ontario. It is situated on Toronto Bay, near the west end of Lake Ontario, 165 miles from Kingston. It contains many fine public buildings, among which are two cathedrals, the University of Toronto, the Court House, the Old Hall, and the Provincial Normal School.

Kingston (19,000), formerly called *Fort Frontenac*, is a fortified town, with a fine harbour at the eastern extremity of Lake Ontario. It is connected with the principal places by the Grand Trunk.

Hamilton (19,000), at the head of Burlington Bay, and connected with the other cities by the Great Western Railway, is an important commercial city.

London (12,000), on the Thames, 80 miles west of Hamilton, into which it is connected by railway, is a commercial, fertile and populous agricultural centre. It is connected with the other cities by the Grand Trunk.

St. Catharines (10,000), on the Welland Canal, has a beautiful situation in the midst of fertile land, and is a favourite summer resort.

Napanee, at the mouth of Napanee River, was the first capital of Upper Canada.

Prescott, on Lake Huron, at the western terminus of the Grand Trunk, is connected with a railway, and is a busy centre for many shippers.

XVII Industries.—194. The most important pursuits

are agriculture, lumbering, mining, manufacturing, fishing, and commerce.

The exports consist principally of flour, grain, lumber, ashes, and petroleum.

The imports are similar to those of Quebec.

197. The *Grand Trunk Railway* connects the principal places with the other Provinces. The *Great Western Railway*, crossing the Niagara River by a suspension bridge, and connected with the Michigan lines at Detroit by steamers which carry a whole train across the river, affords direct communication with the United States. The Provinces of Ontario and Quebec contain about 2000 miles of railway. (See *Quebec*, 169.)

The *Welland Canal*, 28 miles long, connects Lakes Erie and Ontario; the *Rideau Canal*, 126 miles long, connects Lake Ontario with the Ottawa River. There are also canals along the St. Lawrence, Ottawa, and Richelieu.

XVIII. Government.—198. The local government is similar to that of Nova Scotia.

The Legislature consists of but one House, called the *Assembly*, which is composed of 82 members, elected for the term of four years.

The annual grant from the revenue of Canada is \$30,000, and 80 cents per head on the population.

QUESTION.—A merchant in Picton, Nova Scotia, purchases a lot of flour in London, Ontario, and sends a vessel to receive it at Montreal; what freight will the vessel carry to Montreal, through what waters will she pass, and how will the flour be brought to Montreal?

PRINCE EDWARD ISLAND.

I. History.—199. Prince Edward Island was partially colonized by the French under the name of St. John's Island. It was taken by the British in 1758, shortly after the capture of Louisburg, and was ceded to Britain in the Treaty of 1763. It was attached to the Government of Nova Scotia until 1776, when it became a separate Province. In 1800, the present name was given to the Island in honour of Edward, Duke of Kent.

200. A large part of Prince Edward Island was granted by the British Government to about one hundred persons. These proprietors established the system of tenantry, and much of the country is still owned by landlords resident in England. Some of the farms have recently been purchased by the occupants.

II. Position.—201. Prince Edward Island is on the south of the Gulf of St. Lawrence, and is separated from Nova Scotia and New Brunswick by Northumberland Strait.

It is 100 miles from New Brunswick, 100 miles from Nova Scotia, and 150 miles from Cape Breton. N. lat. 45°—47° 30'. W. lon. 62°—64° 25'.

III. Form.—202. The Island is crescent-shaped, having the concave side towards the Gulf. The south coast is parallel with the coast of New Brunswick and Nova Scotia.

IV. Const.—203. There are numerous indentations on

the coast. The most important are *Richmond Bay, Cardigan Bay, Hillsboro' Bay, Bedeque Harbour, and Egmont Bay.*

Richmond Bay and Hillsboro' Bay divide the Island into three peninsulas. There are many good harbours.

204. The principal **capes** are *North Cape, East Point, Bear Cape, Traverse Cape, Egmont, and West Point.*

A submarine telegraph crosses from Cape Traverse to Tormentine in New Brunswick. In winter, ice-boats run between these points.

EXERCISE.—Trace the coast line of Prince Edward Island, marking the bays and capes.

V. Area.—205. Prince Edward Island is one-ninth the size of Nova Scotia:

—equal to a square of 46 miles.

Extreme length, 130 miles; breadth, 30 miles.

VI.-X.—206. The **surface** is gently undulating. The most hilly portion is near the middle. The general watershed extends east and west.

207. The **streams** are small, but often have deep estuaries, which are important to navigation. The principal rivers are *Montague, Hillsboro', Duck, and Little.* There are many small lakes.

208. The **soil** is generally a sandy loam, free from stones, and well suited to agriculture.

209. The **climate** is temperate and healthful. The extremes of heat and cold are not quite so great as in Nova Scotia. The Island is usually shut in by ice from the end of December till the end of March.

XI. XIII.—210. No **minerals** of importance have been discovered.

The cultivated **plants** and forest trees are like those of Nova Scotia. Oats, barley, and potatoes are raised in great abundance.

The **animals** are similar to those of Nova Scotia. The moose, caribou, raccoon, and porcupine are not found on the Island.

XIV. Inhabitants.—211. The population in 1861 was 81,000. The inhabitants are mainly descendants of British and Irish colonists.

The inhabitants of French origin are estimated at 10,000. There are about 350 Indians.

212. About three-sevenths of the population are Roman Catholics. Presbyterians are more numerous than all other Protestants combined. Good provision is made for general education. Free schools were established in 1852. They are supported wholly from the public treasury, except in cases where a bursary is raised by voluntary subscription to acquire superior teachers. Teachers are trained at the Normal School, Charlottetown. There are also two Colleges at Charlottetown.

Total amount paid from the treasury for education, about \$75,000.

XV. Divisions.—213. The Island is divided into three

counties—*King's, Queen's, and Prince.* The counties are subdivided into *parishes*:—

Counties.	Chief Places.
KING'S.....	Georgetown, Souris, Montague.
QUEEN'S.....	Charlottetown, Southport, Pownall.
PRINCE.....	Summerside, St. Eleanor's, Cascompes.

The Island is also divided into sixty-seven *lots or townships*, which are numbered from 1 to 67.

EXERCISE.—Complete the map of Prince Edward Island.

XVI. Towns.—214. Charlottetown (7000), the capital, is the only city.

Charlottetown has a good harbour at the confluence of three rivers. Its trade is important. The main streets are 100 feet broad. The city contains four public squares. The Parliament House, a handsome stone building, stands on Queen's Square.

Summerside, on Bedeque Harbour, 35 miles from Charlottetown in New Brunswick, is well situated for trade with St. John.

XVII. Industries.—215. The chief pursuits are *agriculture, fishing, lumbering, shipbuilding, and commerce.*

The **exports** consist of agricultural and dairy produce, fish, ships, and lumber;—value, exclusive of ships, \$1,500,000.

The **imports** embrace manufactured goods, tropical produce, coal, oil, flour, and liquors;—value, \$2,400,000.

XVIII. Government.—216. The government is vested in a Lieutenant-Governor appointed by the Crown, and a responsible Executive Council.

The Legislature consists of the Governor, a Lieutenant-Governor, 13 members, and an Assembly of 10 members.

Both the Legislative Council and the Assembly are elected by the people; the former for eight years, the latter for four years.

The revenue arises principally from duties on imported goods, amount, \$400,000. The public debt, \$1,000,000.

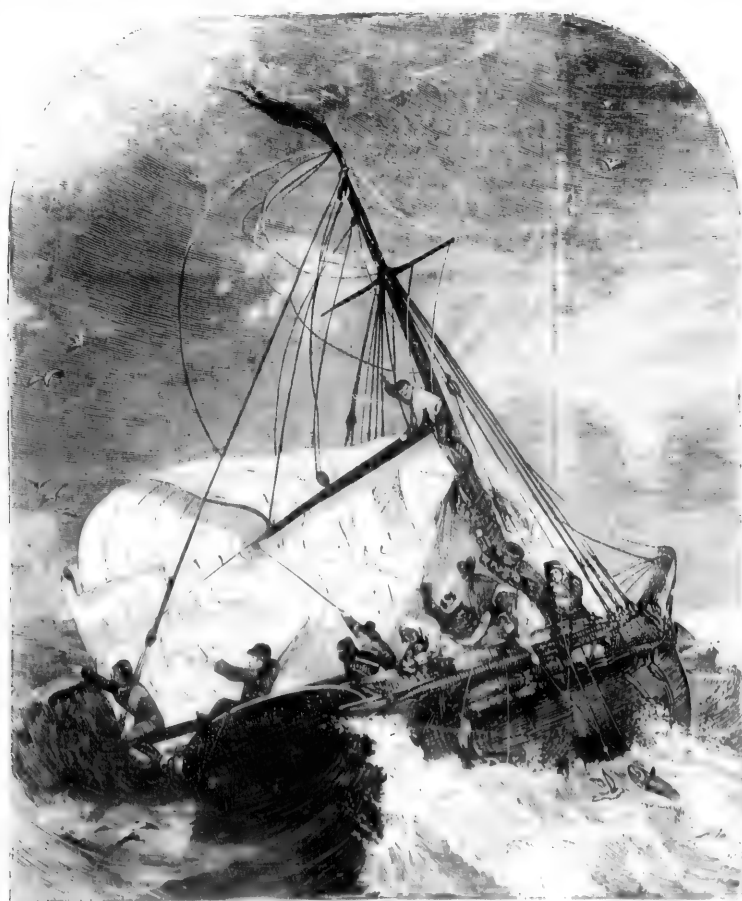
NEWFOUNDLAND.

I. History.—217. The Island of Newfoundland was discovered by Cabot in 1497. The important fisheries on its coast soon attracted the attention of the Portuguese, Spaniards, French, and English. In 1627, Sir Humphrey Gilbert took formal possession of the Island in the name of Queen Elizabeth.

218. Settlements were founded in Newfoundland in the seventeenth century, both by the French and the English. Colonization advanced very slowly, in consequence of the small number of immigrants and opposition from those who were born in the colony.

In 1713, the French ceded Newfoundland to Great Britain. It was nominally attached to the colony of Nova Scotia, but in 1763, when it became a distinct Province. By the Treaty of 1763, the Island was finally ceded to the British. The French colonies of St. Pierre and Miquelon, the only French possessions in North America, were reserved to the French as fishing stations.

II. Position.—219. Newfoundland is situated at the entrance of the Gulf of St. Lawrence, 60 miles north-east of



FISHING ON THE BANKS OF NEWFOUNDLAND.

Cape Breton. It is separated from Labrador by the Strait of Belle Isle, which at the narrowest part is only 12 miles in breadth.

N. lat. $46^{\circ} 37'$ — $51^{\circ} 40'$; W. lon. $52^{\circ} 41'$ — $50^{\circ} 31'$.

III. **Form.**—220. The island has the general outline of a triangle.

IV. **Coast.**—221. The coast line is very irregular, and is about 1200 miles in length.

The principal coast waters are, the Strait of Belle Isle, Hare Bay, White Bay, Notre Dame Bay, Bonavista Bay, Trinity Bay, Conception Bay, Placentia Bay, Fortune Bay, Hermine Bay, St. George's Bay, and Bay of Islands.

222. The Peninsula of Avalon is formed by Trinity and Placentia Bays.

The principal capes are, Bauld, St. John, Lewis, Bonavista, Breakheart, Race, May, Ray, and St. George.

The islands are, St. Pierre, Miquelon, and Antley, off the south coast; North Belle Isle, South Belle Isle, and Fogo, on the north-east.

223. Off the south and east coasts is a submarine plateau, called the Banks of Newfoundland, about 600 miles in length by 200 in breadth. The water here is much shallower than in other parts of the ocean. The Banks are celebrated for their cod fisheries.

A submarine telegraphic cable from Newfoundland to Ireland, and another from Newfoundland to Cape Breton, connect America with Europe.

V. **Area.**—224. Newfoundland is nearly twice as large as Nova Scotia:

—equal to a square of 190 miles.

Extreme length, 400 miles; breadth, 300 miles.

VI.—X.—225. The surface is hilly. The interior is a region of swamps, lakes, and barrens. The principal river is the Exploits. The largest lake is Grand Pond.

Much of the soil is barren and rocky. The most productive is near the south-east coast. By recent explorations good agricultural districts have been found in the south-west.

226. The climate is severe, but healthful. The severity of the climate is largely owing to the vast quantities of ice brought down by

polar currents. Dense fogs, occasioned by the condensation of vapours from the Gulf Stream, are prevalent. (See *Physical Geography*.)

XI.—XIII.—227. The minerals are coal, copper, lead, and iron.

The plants are such as belong to the cold region. Potatoes, turnips, oats, and barley are cultivated. The forest trees are generally of small size. On the west coast there are fine forests of pine, spruce, and birch.

The wild animals include the deer, bear, wolf, beaver, marten, and dog.

The large curly-haired Newfoundland dog is celebrated for sagacity.

XIV. **Inhabitants.**—228. The population in 1861 was 123,000. The principal portion of the inhabitants are in the Peninsula of Avalon. The interior is wholly uninhabited.

Nearly half the inhabitants are Roman Catholics, and about one-third are Episcopalians. Liberal provision is made for the support of education.

XV., XVI.—229. Newfoundland is divided into fifteen electoral districts.

The towns are *St. John's* (the capital), *Harbour Grace*, *Carbonear*, *Port de Grave*, *Brigus*, *Trinity*, and *Greenspond*.

230. *St. John's* (25,000) is the most easterly city in America, being 1920 miles from Ireland. It has a good harbour, and is extensively engaged in the seal fisheries. It has suffered much at different times from fire. *Harbour Grace* (5000) and *Carbonear* (5000) rank next in importance.

XVII. **L. industries.**—231. The cod, seal, and other fisheries are the chief pursuits. The cod fisheries are the most valuable in the world. The rich copper mines are becoming an important field of labour.

The principal exports are fish and oil. Total value, about \$3,500,000. The imports embrace flour, tropical produce, manufactured goods, and lumber. Annual value, \$6,000,000.

XVIII. **Government.**—232. The government is similar to that of Prince Edward Island.

The Legislative Council consists of 12 members; the Assembly, of 30 members.

The revenue is about \$500,000; the public debt, \$1,181,000.

EXERCISE.—Find the time of sunrise and sunset at *White Bay* (lat. 50°), on the 21st of June.

HUDSON BAY TERRITORY AND LABRADOR.

I. **History.**—233. This portion of British America derives its name from its great inland sea, in which the English navigator Henry Hudson lost his life in 1610. Hudson was placed in an open boat by a mutinous crew, and nothing is known of his subsequent fate.

This vast territory is owned and governed by an English association, called the *Hudson Bay Company*.

234. All that portion of America drained by the streams flowing into Hudson Bay was, in 1670, granted by Charles II. of England to a trading company. For upwards of a hundred years the company, through its monopoly secured by royal charter, had a clear profit of between 60 and 70 per cent. annually on its investments.

235. In 1783 a rival company was formed, called the *North-West Fur Company*, which had its head-quarters at Montreal. It soon began to encroach on the older company's territories, and also extended its trading posts westerly to the Pacific. A deadly strife between the companies ensued, and all the profits of the trade were destroyed.

In 1821 the two companies were amalgamated, and a lease was obtained from the British Government conferring the privilege of exclusive trade over the western territory, not included in the charter of 1670. Measures are being taken by the Government of Canada to secure the annexation of the territory to the Dominion.

II.—XIII. —236. Hudson Bay Territory includes all the mainland of British America except the Dominion of Canada, the coast of Labrador, and British Columbia. It comprises about two-thirds of British America.

237. The surface is generally low. The general slope is towards the north. The *Rocky Mountains* cross the western side; and a low range, called the *Watchish Mountains*, runs north and south through Labrador. There are several large rivers and lakes. (See *North America*, 22, 27.)

The soil is generally unfit for cultivation, and the climate very severe.

238. The Peninsula of Labrador, and the country lying north-east of the valley of Mackenzie River, are for the most part barren and frozen regions, deriving their importance from the fur-bearing animals with which they abound. At Fort York, on the west side of Hudson Bay, the thermometer sometimes falls to 50° below zero, and brandy becomes solid ice. In winter the days are very short and dark, the sun just skimming along the southern horizon for a few hours. North of the Arctic Circle, the longest night exceeds twenty-four hours in length. The longest day in summer is equally long, when the sun makes a circle around the horizon.

239. An extensive country, stretching from the Lake of the Woods and Winnipeg westward to the Rocky Mountains, has a fertile soil and a temperate climate. Much of this region is prairie land, destitute of trees, and covered with tall grass. It includes the Red River Settlement.

The valley of the Mackenzie is generally covered with



240. The most important animals are the deer, musk ox, bear, beaver, marten, fox, mink, otter, walrus, whale, and aquatic birds.

XIV.—XVIII. — 241. The population is estimated at 194,500.

The inhabitants are mostly Indians. Along the coasts are many Esquimaux, who subsist chiefly on fish, flesh of the rein-deer, and seal oil. They clothe themselves in the hairy skins of animals, and they sometimes make their dwellings of snow.

242. There are no **towns**. The Company have many *forts*, where their agents barter with the natives for furs.

Fort York on Hudson Bay, and *Moose Fort* on James Bay, are the chief ports, through which trade is carried on with England during the short summer.

243. The chief **pursuits** are trapping, hunting, and fishing.

The cod, herring, seal, and whale fisheries on the coast of Labrador are very valuable.

244. The **exports** consist of furs, walrus ivory, fish, oil, and feathers. The agents of the Company obtain these products much below their value, giving in exchange guns, ammunition, knives, kettles, and such other articles as the natives require. None but the Company's agents are allowed to trade in the territory.

245. The **government** is administered by officers appointed by the Company.

The east coast of Labrador, from Hudson Strait to the Gulf of St. Lawrence, is attached to the Government of Newfoundland.

RED RIVER SETTLEMENT.

246. Red River Settlement is a colony at present within the bounds of Hudson Bay Territory. It embraces an extensive tract lying west of Lake of the Woods and Lake Winnipeg. It was purchased from the Company in 1811, by the Earl of Selkirk, as a home for Scotch emigrants. Many colonists arrived from Scotland in the following year and subsequently. In 1835, the Settlement was repurchased by the Company from the Earl's executors.

247. Red River Settlement is part of a narrow belt of rich land, bounded by the Red River, Assiniboine, and Saskatchewan. It is a fertile prairie covered with tall grass, and is very rich in soil.

248. The climate is severe in winter, is similar to that of the north-west of England.

249. Wheat, corn, and other grains yield abundantly. The soil is very fertile, and the water on the prairies, where the animals graze, is pure. The hunting of these animals is an important trade.

250. The population of the Settlement is about 1,000, consisting of Scotch emigrants, retired servants of the Company, and Indians.

The chief place and seat of government is *Fort Garry*, at the junction of the Assiniboine and Red Rivers.

The government of the Settlement is in the hands of a Governor and Council, appointed at the head office of the Company in London.

251. West of Red River, the land is fertile, and a great number of the people of the country. At present, the best route is through the State of Minnesota. The Company exercises the closest surveillance over the country, in order to suppress any attempt to settle on these lands. It has disallowed the importation of goods from England, except those of the agents and ships.

It is probable that the Settlement will soon be released from the Company's control, and that both it and British Columbia will be annexed

to the Dominion of Canada. We may then look for the extension of the railway to the Pacific. A depression in the Rocky Mountains west of Red River is singularly favourable for such a work.

BRITISH COLUMBIA and VANCOUVER ISLAND.

I. **History**.—250. British Columbia formed a part of Hudson Bay Territory until 1858, when the discovery of gold attracted crowds of miners, and the country was organized as a British colony.

251. Vancouver Island derived its name from Captain Vancouver of the British navy. It was supposed to be a part of the mainland previous to 1792, when this officer explored the east coast. It was formed into a colony in 1858.

British Columbia and Vancouver are now under the same government, constituting a single colony.

II.—XVIII.—252. British Columbia comprises that portion of British America between the Rocky Mountains and the Pacific, extending northerly from the United States to the Simpson and Finlay Rivers.

253. Vancouver Island is separated from Columbia by the *Gulf of Georgia* and *Queen Charlotte's Sound*; from the United States, by the *Strait of Juan de Fuca*. It is in the same latitude as the central part of Newfoundland.

254. The **coast** is much indented by narrow bays. There are also many small **islands**. Queen Charlotte Island, 150 miles in length by 50 miles in breadth, is next to Vancouver in size.

255. British Columbia is about 12 times larger than Nova Scotia, being equal to a square of 475 miles. It is about 500 miles north and south, and 400 east and west.

256. Much of the **surface** is mountainous. The *Rocky Mountains* extend along the eastern side; the *Cascade Range* through the western. The general slope is toward the south-west.

257. The principal **rivers** are, the *Simpson*, *Finlay*, *Fraser*, *Thompson*, and *Columbia*.

The Fraser is about 1000 miles in length. The rivers abound in fish.

Much of the soil towards the south is well adapted to agriculture. The climate in this section also is temperate and humid.

258. The most important **minerals** are gold and coal. The gold mines in the valleys of the Fraser and Thompson Rivers have given British Columbia great celebrity. The annual yield is about \$10,000,000.

259. West of the Cascade Mountains are magnificent forests of Douglas pine and other trees. The various grains, vegetables, and fruits of the Temperate Zone are cultivated in the south.

260. The white **population** of British Columbia and Vancouver is estimated at 12,000; the Indian at 23,000.

There are no cities. *New Westminster*, near the mouth of the Fraser,

for the extension of
Rocky Mountains west
York.

VER ISLAND.

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is the chief place. *Forts Langley, Yale, and Lytton* are important settlements.

The principal pursuit is gold mining.

261. **Vancouver**, the largest island on the Pacific coast of North America, is about two-thirds the size of Nova Scotia. Its length, from north-west to south-east, is about 275 miles.

The **surface** is varied with mountains, valleys, and prairies. The rivers are small, but the numerous bays afford fine harbours.

262. The **soil** is very fertile, and the climate is mild and humid. There is but little frost.

The climate resembles that of England, but is warmer in summer and more rainy in winter.

263. The **minerals** are coal, copper, and iron; all of which are plentiful.

The cultivated **plants** are similar to those of Ontario. There are fine forests of pine, cedar, oak, and other trees.

264. **Victoria**, the capital (5000), has a fine harbour in the south of the island.

Nanaimo, on the east coast, is in the neighbourhood of important coal mines.

The chief pursuits are agriculture, mining, and fishing. The coast fisheries are very important.

265. The **government** of the united colony of British Columbia and Vancouver Island is similar to that of the other British Provinces.

EXERCISES ON THE GLOBE.—(1.) Find the distance between the city of Quebec and Victoria.

(2.) When it is noon at Quebec, what is the time at Victoria?

(3.) Find the length of the longest day at Fort York.

(4.) Find the distance from Vancouver to Japan.

QUESTION.—A ship sails from London to Fort York and back; through what waters does she pass, and what freights will she probably carry?



CAPITOL AT WASHINGTON.

THE UNITED STATES.

I. History.—266. The United States originally consisted of thirteen British colonies, situated on the Atlantic slope. They declared their independence in 1776; which, after several years' war, was acknowledged by the British Government in 1783.

The Revolution, as the struggle for independence is called, was caused by an attempt on the part of the Imperial Government to impose taxes upon the colonies. After vainly remonstrating, the colonists appealed to arms.

The thirteen colonies were New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Pennsylvania, Maryland, Virginia, North Carolina, South Carolina, and Georgia.

The first battle between the colonists and the British was fought at Bunker Hill, near Boston, in 1775; and the last at Yorktown, Virginia, in 1781.



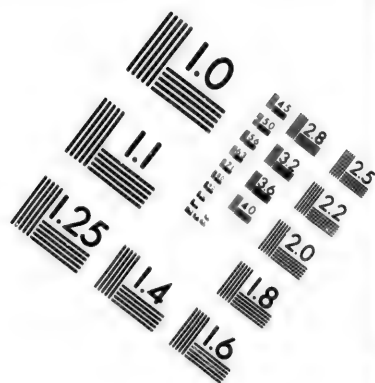
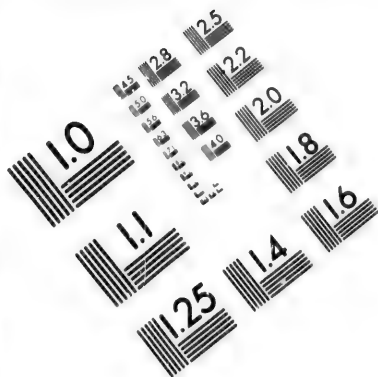
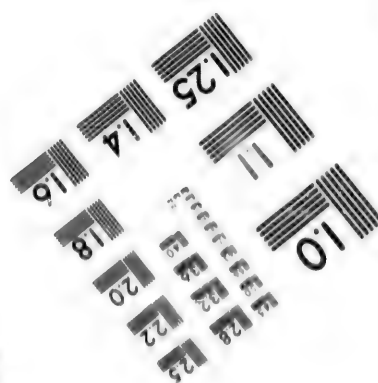
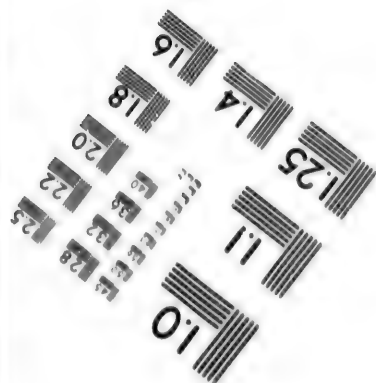
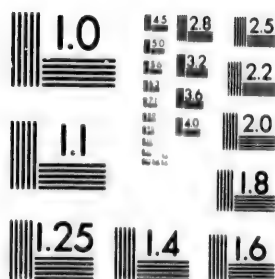
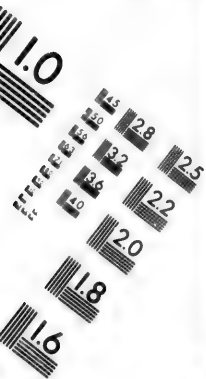


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267. The United States did not originally comprise much over one-fourth of the present area. The whole country between the Mississippi and the Rocky Mountains, except Texas, belonged to the French. This was purchased by the United States in 1803, for \$15,000,000. In 1819, the peninsula of Florida was obtained from Spain; in 1845, Texas, having previously gained its independence from Mexico, was annexed; and at the close of a war with Mexico, in 1848, New Mexico and California were ceded to the United States.

The most noted recent event in the history of the United States is the Southern Rebellion. In 1861, eleven of the Southern States withdrew from the Union, and formed themselves into a separate republic. After a sanguinary struggle of four years, they were subjugated by the Federal Power.

268. The United States furnish the most remarkable example of rapid national growth which the world has ever witnessed. The resources are exceedingly varied and great. Emigrants have crowded in from almost every country of the Earth, and the population is ten-fold greater than at the Revolution. The United States is by far the most powerful state in America, and ranks with the great Powers of Europe.

II. Position.—269. This great country is situated in the southern half of the North Temperate Zone. It comprises the whole breadth of North America, from the Atlantic to the Pacific, and extends from British America on the north to Mexico on the south. (*See North America, 51.*)

N. lat. $24^{\circ} 32' - 49^{\circ}$; W. lon. $67^{\circ} - 124^{\circ}$.

The Rio Grande separates the United States from Mexico, from El Paso to the Gulf of Mexico.

III. Form.—270. The general outline is that of a four-sided figure, having its greatest length east and west.

The eastern coast line cuts the meridian at an angle of about 45° degrees; the western coast forms the arc of a circle.

IV. Coast.—271. The coast line is over 6000 miles in length. The northern part of the Atlantic coast is high and rocky, presenting excellent harbours. South of the mouth of the Hudson, and along the Gulf of Mexico, the coast is generally low and sandy, and the harbours are obstructed by sand bars. The Pacific coast is elevated and regular. It has fine harbours.

272. The principal **Coast Waters** are *Massachusetts Bay, Cape Cod Bay, Long Island Sound, Delaware Bay, Chesapeake Bay, Albermarle Sound, Pamlico Sound, Apalachee Bay, San Francisco Bay.*

273. The principal **Capes** are *Ann, Cod, Montauk Point, Sandy Hook, May, Hendon, Charles, Henry, Hatteras, Lookout, Fear, Canaveral, Florida, Sable, St. Blas, Conception, Mendocino, and Flattery.*

274. The eastern coast abounds in small **Islands**, which are high and rocky in the north, low and sandy in the south. The most important are *Mount Desert, Nantucket, Martha's Vineyard, Long Island, Florida Keys, and the Dry Tortugas.*

Long Island is over 100 miles in length, and includes an area about

half the size of Cape Breton. The Florida Keys, or Reefs, consist of a large number of small islands and sand-banks south of Florida.

EXERCISE.—Trace the outline of the United States, marking the coast waters, capes, and islands.

V. Area.—275. The area, including the recently acquired territory known as Russian America, is about the same as that of British America.

The extent from east to west is about 2500 miles, and from north to south 1300 miles.

VI. Surface.—276. This country, like British America, includes portions of the three great physical divisions of North America—the *Atlantic Highlands*, the *Pacific Highlands*, and the *Central Plain*. (*See North America, VI.*)

277. The Appalachian Mountain System extends north-east and south-west along the eastern side of the country for a distance of 1300 miles.

The parallel ranges are separated by beautiful and fertile valleys. In the north the mountains approach near the coast; south of the Hudson they are further inland, a low sandy plain lying between them and the coast. The *Catskill* and *Adirondack Mountains* of New York, and the *White Mountains* of New Hampshire, are noted for beautiful scenery. (*See North America, 19.*)

278. The principal mountains on the west side are the *Rocky Mountains, Sierra Madre, Wahsatch, Sierra Nevada, Cascade, and Coast Mountains.*

The Coast Range, near the Pacific, is quite low. The Cascade Range is lofty, and contains several volcanic peaks. *St. Helen's* has an elevation of 15,750 feet; *Mount Hood*, of 14,000 feet.

Yosemite Valley, in the Sierra Nevadas of California, is 10 miles long and 2 miles wide, enclosed between granite cliffs rising precipitously from 2000 to 4000 feet. In the *Yosemite Falls*, a stream 80 feet wide descends 2000 feet in three successive cataracts. The first is said to have a descent of 1300 feet. The scenery is grand, and attracts numerous visitors.

279. In the middle of the elevated plateau between the Rocky Mountains and the Sierra Nevada and Cascade Ranges is a great interior basin, called *Fremont Basin*. It is elevated about 5000 feet, and surrounded by mountains. It is a rainless, desolate region, abounding in salt lakes. The streams which flow from the surrounding mountains are either absorbed by the sand or flow into lakes which have no outlet. Some of the valleys on the east of the basin are made productive by irrigation.

280. The whole of the southern slope of the central plain of North America is within the United States, forming about half the area. It is generally either level or unulating, rising gradually towards the mountains on the east and west. The valley of the Mississippi comprises the chief part of this section. Between the Mississippi and the Rocky Mountains are extensive prairies covered with tall grass and destitute of trees, except along the margins of the rivers.

EXERCISE.—Trace the mountains on the outline map of the United States.



YOSEMITE FALLS.

VII. Rivers.—281. The principal rivers of the United States are comprised within three of the river systems of North America,—the *Atlantic*, the *Gulf of Mexico*, and the *Pacific*. A few small streams belong to the basin of the St. Lawrence. (*See North America*, VII.)

282. The most important rivers of the Atlantic slope are, the *Penobscot*, *Kennebec*, *Merrimac*, *Connecticut*, *Hudson*, *Delaware*, *Susquehanna*, *Potomac*, *James*, *Roanoke*, *Cape Fear*, *Pelee*, *Santee*, *Savannah*, and *Altamaha*. The *Hudson*, *Delaware*, and *Potomac* are the most important to navigation.

283. Many of these rivers, having a rapid course, furnish a double water power for manufactures. Waterfalls often occur where the streams descend from the highlands to the plain on the coast. The *Highlands of the Hudson*, *Trenton Falls* on the *Mohawk*, the passage of the *Potomac* through the *Blue Ridge* at *Harper's Ferry*, are among the places attractive to travellers.

284. The most important rivers flowing into the Gulf of Mexico are the *Chattahoochee*, *Alabama*, *Tombigby*, *Pearl*,

Mississippi, *Sabine*, *Trinity*, *Brazos*, *Colorado*, and *Rio Grande*.

The *Mississippi* is much the largest river in the United States, and among the rivers of the world it is surpassed only by the *Amazon*. Its largest tributaries on the left bank are the *Wisconsin*, *Illinois*, and *Ohio*; and those on the right are the *Des Moines*, *Missouri*, *Arkansas*, *Washita*, and the *Red River*. The *Missouri* branch is much larger and longer than the *Mississippi*. At the junction it is a mile in breadth. It flows with a rapid current, and its waters are turbid. It is navigable nearly to *Great Falls*, 2500 miles from the junction.

Along the lower course of the *Mississippi* the land is very low, and is protected from inundations by embankments called *levees*. The river enters the *Gulf* by several channels.

285. The *Illinois* is connected with *Lake Michigan* by a canal.

Red River, in its upper course, flows through a deep narrow channel, 500 feet below the level of the banks. Further down, the river is obstructed by the *Great Raft*, which consists of drift-wood lodged in the channel for the distance of 70 miles.

286. The principal rivers of the Pacific slope are the *Colorado*, *Sacramento*, and *Columbia*.

The *Colorado* flows through a rainless and desert region. It receives its waters from the *Rocky Mountains*. The *Gila* is the most important tributary.

The *Sacramento* flows through a fertile valley. The *San Joaquin* is its largest tributary.

The *Columbia* is the largest river on this slope. Its head waters are so near the sources of the *Saskatchewan* that a traveller has remarked, that he could fill his kettle from either without moving. Its basin, consisting of table-lands, is generally rugged and barren. There are many waterfalls and inaccessible gorges.

VIII. Lakes.—287. The great lakes of North America lie between the United States and British America. *Michigan* is wholly in the United States. (*See North America*, 27, 28, 183.)

These lakes are of great importance to the internal commerce of the country. They are connected by canals with the *Mississippi*, the *Hudson*, and the *St. Lawrence*.

288. The principal other lakes are *Champlain*, between *New York* and *Vermont*; *Lake George*, *Ontario*, *Cayuga*, and *Seneca*, in *New York*; *Winnipegsee*, in *New Hampshire*; *Moosehead*, in *Maine*; *Okechokee*, in *Florida*; and *Great Salt Lake*, in *Fremont Basin*. Shallow lakes are numerous in *Louisiana*. *Pontchartrain* is the largest.

Champlain is 120 miles in length, with an extreme breadth of 10 miles. It is drained by the *Richelieu*, which flows into the *St. Lawrence*, and is connected by the *Champlain Canal* with the *Hudson*.

Great Salt Lake is 70 miles long and 30 broad. Its waters are extremely salt.

EXERCISE.—Lay down the rivers and lakes on the map of the United States.

IX. Soil.—289. Every variety of soil is found in the United States, from the most fertile to the barren desert.

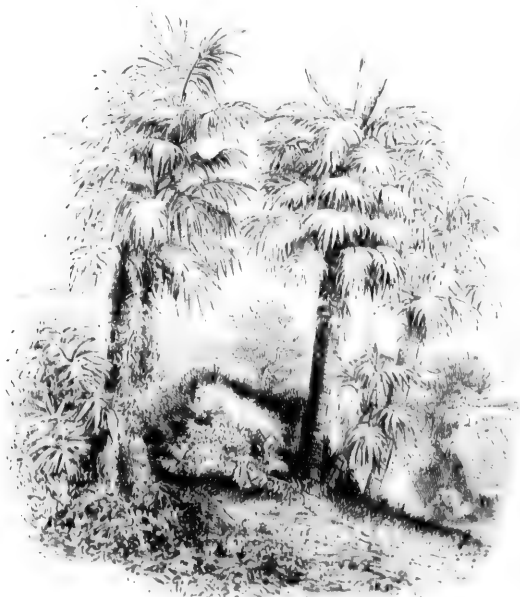
The most fruitful portions are comprised in the central plain, the valleys of the *Appalachian Mountains*, and the region west of the *Sierra Nevada*. The table-lands on each side of the *Rocky Moun-*

tains are generally barren deserts. The Atlantic coast is not fertile. South of the mouth of the Hudson the sandy lowlands are covered with pine forests and extensive swamps. A marshy region in Florida is called the *Everglades*.

X. Climate.—290. The greater part of the country has a temperate climate. North of the 36th parallel the climate may be considered as cool temperate, south of this parallel as warm temperate. Intense heat is confined to the extreme south, severe cold to the mountain heights of the west.

The climate is healthful, except the low swampy regions of the south.

An extensive rainless region lies each side of the Rocky Mountains. (*See North America*, 32, 33.)



PALMETTO

XI. Minerals.—291. The mineral wealth is very great and varied.

The gold mines of California are among the richest in the world. Silver is also found in California, Nevada, New Mexico, and other places. Quicksilver is abundant in California.

Iron, coal, and petroleum are plentiful in Pennsylvania. In Missouri are mountains consisting almost wholly of iron ore. Coal is also abundant in several of the Western States.

Copper is plentiful in the neighbourhood of Lake Superior; lead in Illinois, Wisconsin, and Iowa.

Abundance of granite is obtained in Maine, New Hampshire, and Massachusetts; good marble in Vermont. Salt springs are numerous. Immense quantities of salt are manufactured from the springs at Syracuse, New York.

XII. Plants.—292. The cool temperate region of the north produces the various grains, vegetables, and forest-trees common in Nova Scotia. In the States lying between the great lakes and the 36th parallel the most important products are wheat, maize, flax, tobacco, apples, peaches, and grapes. The forests include the oak, chestnut, and walnut. Further south, cotton, rice, maize, sugar-cane, sweet-potatoes, oranges, figs, and bananas are cultivated; while in the forests are found the palmetto, magnolia, and live oak.

293. West of the Mississippi are vast plains called *prairies*, covered with tall grass. The plateaus each side of the Rocky Mountains yield but little vegetation. In the south of this region are the agave, or century plant, and many kinds of cactus.

In California are immense pines and cypresses, some of which are 300 feet high and 30 feet in diameter.

XIII. Animals.—294. The larger wild animals are now almost wholly confined to the region west of the Mississippi. The most important are the bison or buffalo, moose, deer, Rocky Mountain sheep, grizzly bear, black bear, wolf, and panther.

Wild turkeys, quails, and partridges are numerous on the prairies. Alligators are found in the marshes of the South. Rattlesnakes are common in many parts of the United States.

XIV. Inhabitants.—295. The entire population exceeds 31,000,000. The great majority of the inhabitants occupy the eastern side of the country and the central plain. The northern half of these sections is more densely peopled than the southern. The Southern States are divided into large *plantations*, and the white inhabitants are often far apart.

296. The majority of the people are of British and Irish descent, but most of the nations of Europe have furnished colonists to this country. The Negroes number about 4,000,000. They are principally found in the South, where in some States they form the majority of the population. They perform most of the labour on the plantations, and were until recently held as slaves. They obtained their freedom in 1860.

The Indians are supposed to number about 400,000.

297. Throughout the Northern States general education is regarded as one of the highest interests of the country. Free schools, supported by state funds and taxes on property, prevail. The lower classes of the South are very ignorant. Great efforts are now being made by benevolent persons in the Northern States to educate the freedmen of the South. Seminaries, colleges, law schools, medical schools, and public libraries are numerous.

Among the higher institutions, some of the most celebrated are *Harvard University*, Cambridge; *Brown University*, Providence; *Yale College*, New Haven; and *Princeton College*, Princeton.

298. All religious denominations have equal civil privileges. A remarkable community, called Mormons, live in the neighbourhood of Great Salt Lake. A plurality of wives is one feature of their system.

XV. Divisions.—299. The United States consist of 37 States, the *District of Columbia*, 9 Territories, and the recently acquired country called *Waluasia*, or *Russian America*,—making 48 divisions.

The States are usually grouped as *New England States*, *Middle States*, *Southern States*, and *Western States*.

EXERCISE.—Trace the boundary line between the States and Territories.

XVI. Towns.—300. Washington, in the District of Columbia, is the capital of the United States. It is situated on the Potomac River, 110 miles from its mouth. It contains the *Capitol*, in which the members of Congress meet; and the *White House*, or residence of the President.

Large cities are most numerous in the northern half of the Atlantic side of the country. *New York* is the largest city in America. Next in size, among those of the United States, are *Philadelphia*, *Brooklyn*, *Baltimore*, *Boston*, *New Orleans*, *Cincinnati*, *St. Louis*, and *Chicago*. New York and Brooklyn, which are separated by a narrow passage of water, have a united population of 1,200,000.

XVII. Industries.—301. The leading pursuits are *agriculture*, *manufacturing*, *mining*, *fishing*, and *commerce*.

The States bordering on the great lakes and in the valley of the Mississippi are among the finest agricultural countries in the world. It is estimated that in 1866 the United States produced 180,000,000 bushels of wheat, and 880,000,000 bushels of Indian corn.

302. The New England and Middle States are the principal seats of manufactures, commerce, and fisheries. The value of the goods manufactured in 1860 was estimated at \$1,900,000,000.

In commerce the United States rank next to Great Britain. The easiest facility for the transport of goods is afforded by the rivers, lakes, canals, and railroads of the country. Railroads extend from the Atlantic to the Mississippi, and a road is now being constructed across the Rocky Mountains.

303. The most important exports are flour, grain, rice, tobacco, cotton, mineral products, and manufactured goods;—total value, over \$300,000,000.

The chief imports are tea, coffee, sugar, potatoes, coal, and fine manufactures;—total value, about \$350,000,000.

XVIII. Government.—304. The United States form a *Republic*. Each State has its own local government and all are united under one general government. The government is called a *Democracy*, being wholly controlled by the voice of the people. The head officer is styled the *President*, and is elected for the term of four years. The Legislature, or *Congress*, consists of an Upper House, called the *Senate*, and the *House of Representatives*.

305. The people do not vote directly for the President, but each State chooses as many *electors* as it has members in Congress, and the electors choose the President.

The Senate consists of two members from each State, chosen every six years.

The House of Representatives comprises 241 members, chosen for two years, the number from each State depending on the population.

The Territories have no representation, but are under the control of the General Government until they have sufficient population to be admitted as States.

The revenue of the General Government is about \$120,000,000; the national debt, about \$3,000,000,000.

NEW ENGLAND STATES.

306. The colonization of the New England States was commenced in 1620, by the English Puritans, usually called the *Pilgrims*. The Pilgrims crossed the Atlantic in the *Mayflower*, and settled at Plymouth in Massachusetts.

This division comprises the following six States:—

Name.	Size compared with Nova Scotia.	Population.	Chief Towns. (Capitals in Black Letter.)
MAINE	1½	628,000	Augusta , Portland (20,000), Bangor (16,000).
NEW HAMPSHIRE ..	3	320,000	Concord , Manchester (20,000), Portsmouth.
VERMONT	6	315,000	Montpelier , Burlington, Rutland.
MASSACHUSETTS	2	1,231,000	Boston (200,000), Lowell, Cambridge, Roxbury, Charlestown, Worcester, New Bedford, Salem, Lynn, Lawrence.
RHODE ISLAND	1¼	175,000	Providence (51,000), New Port , Bristol.
CONNECTICUT	4	400,000	Hartford , Newhaven (30,000), New London.

307. The coast abounds in fine harbours.

The surface is generally hilly. The *Green Mountains* are in Vermont, the *White Mountains* in New Hampshire. The latter are noted for fine scenery.

The soil is not generally fertile. The climate is like that of Nova Scotia.

308. *Maine* builds more ships than any other State in the Union. It exports lumber, granite, marble, lime, and potatoes. *Portland*, its largest city, has a fine harbour, and is connected with Canada by the Grand Trunk Railway.

309. *New Hampshire*, sometimes called the *Granite State*, is a mountainous country. Its products are cattle, butter, cheese, and potatoes. It also has important cotton and woollen manufactures.

310. *Vermont* takes its name from the Green Mountains, which are rendered verdant by their forests of pine and fir. Agriculture, grazing, and lumbering are the chief pursuits. Large quantities of maple sugar are made.

311. *Massachusetts* was the first State to oppose the British Government at the time of the Revolution. This State is among the foremost in manufactures, producing more than half the boots and shoes, and one-third of the cotton and woollen goods made in the United States. It also takes the lead in the fisheries, and is second only to New York in commerce. It was the first State to establish free schools. *Boston*, the largest city in New England, is noted for its public schools and literary institutions. Its public library ranks as the second in the United States. *Lowell* and *Lawrence* are the chief seats of cotton and woollen manufactures. *Lynn* is noted for shoe-factories. *New Bedford* is extensively engaged in the whale fisheries.

312. *Rhode Island* is the smallest State in the Union, but it is densely peopled. Numerous manufacturing towns and villages are situated along the banks of its streams, cotton and woollen goods being the chief products. *Providence*, the seat of Brown University, was founded in 1636 by Roger Williams, the noted advocate of political and religious freedom. *Newport* is a celebrated watering-place.

313. **Connecticut** is noted for the variety of its manufactures. It makes more sewing-machines than any other State. *New Haven*, the seat of Yale College, is a beautiful city. *Hartford* manufactures firearms and machinery. *New London* is a great fishing port.

MIDDLE STATES.



SUSPENSION BRIDGE OVER NIAGARA.

314. This section comprises the following seven States and the district of Columbia:—

Name.	Size compared with Nova Scotia.	Population.	Chief Towns. (Capitals in Black Letter.)
NEW YORK	2½	3,581,000	Albany (62,000), New York (900,000), Brooklyn (300,000), Buffalo (81,000), Rochester, Troy, Syracuse, Utica, Oswego, Kingston, Newburg, Poughkeepsie.
PENNSYLVANIA.	2½	2,906,000	Harrisburg , Philadelphia (600,000), Pittsburg (50,000), Alleghany, Reading, Lancaster.
NEW JERSEY...	½	672,000	Trenton , Newark (72,000), Jersey, Paterson, Camden.
DELAWARE....	½	112,000	Dover , Wilmington (21,000).
MARYLAND	½	687,000	Annapolis , Baltimore (212,000).
VIRGINIA.....	2	1,240,000	Richmond (88,000), Petersburg, Norfolk, Yorktown.
WEST VIRGINIA	1½	354,000	Wheeling (14,000).
COLUMBIA.....			Washington (61,000), Georgetown.

315. The **surface** of these States is greatly varied.

There are two principal mountain ranges, the *Blue Ridge* and the *Alleghanies*, separated by a broad and fertile valley. The coast region is low and sandy. It is separated from the high land by a rocky ridge. The chief **rivers** are the *Hudson*, *Mohawk*, *Delaware*, *Susquehanna*, *Potomac*, *Rappahannock*, *James*, *Shenandoah*, *Alleghany*, *Monongahela*, *Kanawha*, and *Ohio*.

The **climate** is temperate in the north, and warm in the south.

The **pursuits** are agriculture, manufactures, commerce, and mining.

316. **New York** was first colonized by the Dutch, but was taken by the English in 1662. It exceeds every other State in population, wealth, and commerce. It is also among the first in manufactures. Vast quantities of salt are made from salt springs. A great deal of flour is made in this State from grain brought over the lakes from the west. New York also produces more butter and cheese than any other State. Niagara Falls, Trenton Falls, and Lake George are among the objects of interest to tourists.

317. **New York** city, on Manhattan Island, has a fine harbour, and ranks next to London and Liverpool in commercial importance. The chief trade of the grain-growing States of the Upper Mississippi passes through this city. *Brooklyn* is a suburb of New York. *Albany*, on the Hudson, is connected with Lakes Erie and Champlain by canals. At *Buffalo* the grain from the west is transferred from vessels to canal-boats. *Rochester* and *Oswego* are noted for the manufacture of flour; *Syracuse* for salt. *Troy* is noted for its iron-works; *Westpoint*, for its Military Academy. *Saratoga* is a noted watering-place.

318. **Pennsylvania** was colonized by the English Quaker, William Penn. It is a populous and wealthy State. Its chief products are grain, iron, coal, petroleum, and manufactures. It takes the lead in iron manufactures, and is next to Massachusetts in woollens and shoes.

Philadelphia is noted for the regularity of its streets, and for its extensive manufactures. *Pittsburg*, at the head of steam navigation on the Ohio, is in the centre of the coal and iron region, and exceeds every other place in the United States in the manufacture of iron.

319. **New Jersey** is chiefly engaged in agriculture and manufactures. Vegetables, peaches, and other fruits, are raised abundantly for the markets of the neighbouring large cities.

Newark manufactures jewellery, patent leather, and rubber goods. 320. **Delaware** is situated wholly on the low, sandy coast region. It is smaller than any other State, except Rhode Island. Agriculture is the chief pursuit.

Wilmington manufactures large quantities of gunpowder.

321. **Maryland** is divided into two sections by Chesapeake Bay. It yields tobacco, corn, and wheat. In the west are valuable iron and coal mines.

Baltimore is a great commercial and manufacturing city. Its trade with the valley of the Mississippi is important.

322. **Virginia** was the seat of the earliest English colony in America. Large portions of the country were devastated by the recent civil wars. In the south-east is an extensive marsh called the *Great Dismal Swamp*. The *Natural Bridge*, in the valley west of the Blue Ridge, is a natural arch 200 feet high and 80 feet wide.

Tobacco, wheat, and maize are the chief products. Iron and coal are abundant; but more attention is given to agriculture than to mining.

Richmond has many flour mills, and the largest tobacco manufactories in the United States. It is noted as the late capital of the Confederate States. *Norfolk* has an excellent harbour.

323. **West Virginia**, adhering to the North during the rebellion, was formed into a separate State in 1862. Iron, coal, salt, and petroleum are plentiful.

Harper's Ferry, at the confluence of the Shenandoah with the Potomac, is noted for its beautiful scenery, where the united stream breaks through the Blue Ridge. (See *Lippincott's Gazetteer*.)

324. The **District of Columbia** comprises about 60 square miles on the east of the Potomac. It was originally 10 miles square, lying on both sides of the river, ceded to the General Government by Maryland and Virginia. The portion taken from the latter State was restored.

Columbia is under the immediate control of Congress, but has no representation. It contains *Washington*, the capital of the United States.

SOUTHERN STATES.



COTTON-PICKING.

325. This section, together with the States of Virginia and Missouri, formed the Southern Confederacy which seceded in 1861. It consists of the following ten States :—

Name.	Size compared with North Scotia.	Population.	Chief Towns. (Capitals in Black Letter.)
NORTH CAROLINA..	2½	903,000	Raleigh, Wilmington, Beaufort, Fayetteville.
SOUTH CAROLINA ..	1½	703,000	Columbia, Charleston (61,000), Georgetown.
GEORGIA.....	3½	1,057,000	Milledgeville, Savannah (22,000), Augusta, Atlanta.
FLORIDA.....	3½	140,000	Tallahassee, Key West, Pensacola, St. Augustine.
ALABAMA.....	2½	904,000	Montgomery, Mobile (20,000), Tuscaloosa.
MISSISSIPPI.....	2½	701,000	Jackson, Natchez, Vicksburg.
LOUISIANA.....	2½	108,000	Baton Rouge, New Orleans (108,000), Alexandria.
TEXAS.....	12½	604,000	Austin, Galveston, Houston, San Antonio.
ARKANSAS.....	2½	435,000	Little Rock.
TENNESSEE.....	2½	1,111,000	Nashville, Memphis (23,000), Knoxville.

326. The coast is low and marshy, is bordered by low, sandy islands, and has but few harbours.

The surface is generally low and level, except the interior of the Carolinas, Georgia, and Texas. The *Black Mountains*, in North Carolina, form the highest portion of the Appalachian System. A large part of Louisiana is alluvial,

being formed of materials brought down by the Mississippi, and is subject to inundations.

The western part of Texas is on the dry barren plateau adjoining the Rocky Mountains. The streams here flow through deep gorges called cañons.

327. The low coast region is covered with forests of pitch-pine, from which large quantities of pitch, tar, turpentine, and resin are obtained. The live-oak of Florida is very durable, and is used in ship-building. The palmetto and magnolia are common trees in the south.

328. Cotton is the staple product. There are two kinds;—the long, or *sea island cotton*, produced chiefly by the islands; and the short, or *upland cotton*. Tobacco, rice, corn, sweet potatoes, and sugar-cane are important products. Oranges, pine-apples, and bananas are abundant in Florida and Texas.

South Carolina yields the most rice; Louisiana, the most sugar-cane; and Mississippi the most cotton. Texas is noted for immense herds of cattle.

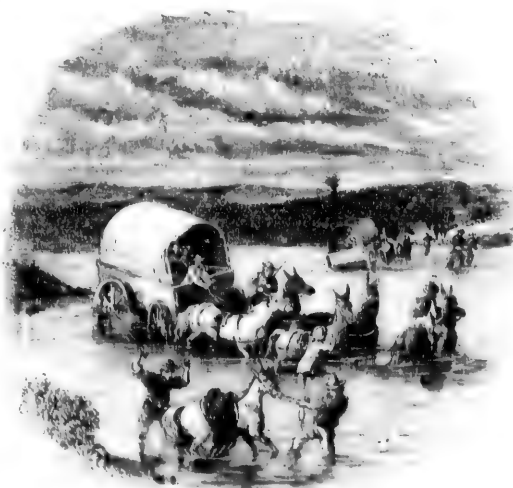
329. The towns are generally small. *Wilmington* exports naval stores and tobacco. *Charleston* exports rice, and is noted as the place where the rebellion began in 1861, by the attack on Fort Sumpter. *Augusta* manufactures cotton goods and flour.

New Orleans is the greatest cotton market in the world. A large part of the produce of the Mississippi valley is exported through this city. *Mobile* is next to New Orleans in the exportation of cotton.

Key West, on a coral island south of Florida, has a fine harbour. *Vicksburg* is noted for its siege in the late war.

But little attention is given to manufacturing in the Southern States.

WESTERN STATES.



SANTA FE TRAIN FORDING THE ARKANSAS RIVER

330. This division is remarkable for the fertility of its soil

and the rapid increase of its population. It consists of the following eleven States :—

Name.	Size compared with Nova Scotia.	Population.	Chief Towns. (Capitals in Black Letter.)
KENTUCKY...	2	1,150,000	{ Frankfort, Louisville (70,000), Lexington.
OHIO.....	2½	2,340,000	{ Columbus, Cincinnati (161,000), Cleveland (36,000), Dayton (20,000), Toledo.
INDIANA.....	1½	1,350,000	{ Indianapolis (19,000), Madison, Terre Haute.
ILLINOIS.....	3	1,712,000	{ Springfield, Chicago (109,000), Galena.
MICHIGAN....	3	740,000	{ Lansing, Detroit (46,000), Ann Arbor.
WISCONSIN ..	3	770,000	{ Madison, Milwaukee (45,000), Racine.
MINNESOTA ..	4½	172,000	{ St. Paul, Fennema.
IOWA	3	675,000	{ Des Moines, Dubuque, Iowa City, Burlington.
MISSOURI	3½	1,182,000	{ Jefferson City, St. Louis (162,000), St. Joseph.
KANSAS.....	4½	107,000	{ Topeka, Leecompton, Lawrence, Atchison.
NEBRASKA...	2	30,000	{ Omaha.

331. These States are situated mainly in the basin of the Mississippi.

The **surface** consists largely of level and rolling prairies. The **soil** is generally very fertile, and especially suited to grain. The arid portions in the west are barren.

The **climate** in the northern sections is subject to great extremes of heat and cold. The south is warm temperate.

The **minerals** are copper, lead, coal, and iron. (See 291.)

332. The leading **pursuits** are agriculture and grazing. The chief products are wheat, maize, and other grains; flax, hemp, tobacco; dairy produce, live-stock, beef, pork, and wool. The southern portions also yield cotton.

Manufacturing receives but little attention except in Ohio. The trade consists mainly in an exchange of products with the manufacturing States of the east.

333. **Kentucky** is noted for its caverns. *Mammoth Cave* consists of a series of under-ground chambers, which have been explored to the distance of ten miles. This State produces large quantities of tobacco.

Ohio is the third State in the Union in population. Its products are maize, wheat, and grapes. *Cincinnati* exports beef, pork, and wool.

334. **Indiana** is a fertile State. Grain and live stock are the chief products.

Illinois consists chiefly of prairie land. It surpasses every other State in the production of wheat and corn. *Chicago*, on Lake Michigan, is a great grain market. In 1831 it contained but seven or eight families. Its population is still rapidly increasing. The city is supplied with water taken from the lake two miles from the shore, and conducted by a tunnel under the bed of the lake. The water near the shore was rendered unwholesome by the sewers.

Galena is in the midst of lead mines.

335. **Michigan** consists of two peninsulas. Copper and iron are abundant in the northern division. *Detroit*, opposite Windsor in the Province of Ontario, has a large trade. (See *Ontario*, 197.)

Wisconsin, Minnesota, and Iowa consist mainly of fertile prairie land.

Milwaukee, on Lake Michigan, has a good harbour and an extensive trade.

336. **Missouri** is also a fertile prairie State. It produces tobacco and Indian corn. *St. Louis*, on a bluff beside the Mississippi, is the depôt of the fur trade of the Rocky Mountains. An important over-land trade is also carried on by waggon trains with the Pacific States. *St. Joseph* is one of the chief places from which emigrant trains set out for the States and Territories beyond the Rocky Mountains.

Kansas and Nebraska are States. The eastern part of Kansas resembles Missouri in surface and products.

PACIFIC STATES.

337. The States on the Pacific side of the continent are the three following :—

Name.	Size compared with Nova Scotia.	Population.	Chief Towns. (Capitals in Black Letter.)
CALIFORNIA..	10	350,000	{ Sacramento, San Francisco (57,000), Benicia.
OREGON.....	5½	53,000	{ Salem, Portland.
NEVADA.....	5	40,000	{ Carson City, Virginia City, Genoa.

338. **California** was thinly inhabited when it was ceded to the United States in 1848. The fame of its gold mines attracted emigrants from almost every country in the world. Its mineral and agricultural resources are very rich and varied. The quicksilver mines are reckoned the richest in the world. The well-watered and fertile valley of the Sacramento and San Joaquin yields abundance of wheat, maize, and other grains. The wine grape is extensively cultivated, and large quantities of wine are exported. Tea, coffee, oranges, and olives are also cultivated.

San Francisco is the most important commercial city on the Pacific coast.

339. **Oregon** has many fertile valleys west of the Cascade Mountains, in which most of the white inhabitants are found.

Nevada derives its chief importance from its silver mines. It contains extensive barren deserts, and has many salt lakes.

TERRITORIES.

340. The table-land and mountainous region of the west comprises the following nine Territories :—

Name.	Capital.
WASHINGTON	Olympia.
IDAHO.....	Boise City.
MONTANA.....	Bannock City.
DAKOTA.....	Yankton.
COLORADO.....	Golden City.
UTAH.....	Salt Lake City (8000).
ARIZONA.....	Prescott.
NEW MEXICO.....	Santa Fé.
INDIAN TERRITORY.....	Tahlequah.

341. A large part of this region is rainless and barren

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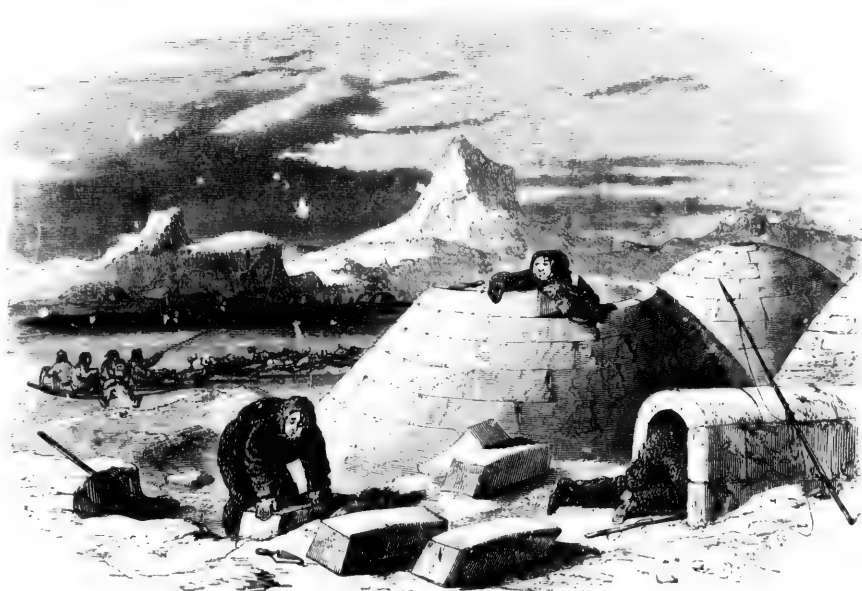
Much of the soil is impregnated with salt. Some fertile districts are found in the valleys. Washington Territory yields fine timber. Masts are exported to Asia.

342. Utah is inhabited by the Mormons. The soil is made fertile

by irrigation. Salt Lake City has broad streets lined with trees, and watered by streams led from the neighbouring hills.

New Mexico is rich in silver. Regular trade is carried on between Santa Fé and St. Louis in Missouri by waggon trains.

Indian Territory has been assigned to the Indians, who have re- moved thither from various States



ESKIMAUX VILLAGE.

WALRUSSIA, OR RUSSIAN AMERICA.

343. This country was discovered in 1741 by a Russian exploring expedition, conducted by Vitus Behring. It was purchased from Russia by the Government of the United States, in 1867, for \$70,000, and it may be considered as a new Territory.

344. It occupies the extreme north-west of the continent. The distance from Asia, at Behring's Strait, is 36 miles. The principal part of the country forms a compact body. A strip, 30 miles in breadth, extends along the Pacific coast to 54° 40' north latitude; and the peninsula of Alaska stretches nearly as far south.

345. The coast on the Pacific is generally bold and irregular, presenting numerous volcanic peaks; on the Arctic it is generally low. The west coast is skirted with islands. The most important group is *George III. Archipelago*, including *Sitka Island*.

346. The area is 21 times greater than Nova Scotia, or equals a square of 627 miles.

The surface is generally an elevated plateau, 3000 feet above the sea, except along the north and north-west, where it is quite low. The volcanic mountains along the Pacific have their highest point in Mount St. Elias (14,970 feet).

347. The climate in the narrow southern portions is temperate and very humid; throughout the main body of the country the cold is severe.

Vegetation in the interior and north is confined to shrubs, mosses, and lichens. In the south are forests of cone-bearing trees; and oats, barley, and vegetables are cultivated.

The animals are like those of Hudson Bay Territory.

348. The population is estimated at 66,000, consisting mainly of Eskimaux and Indians.

The Eskimaux are of small size. They live near the coast, and on the islands. They clothe themselves in the dried skin of the rein-deer, making the entire dress of one piece. Their houses are made of drift logs, and sometimes of blocks of snow. Their chief food consists of fish, flesh of the rein-deer, whale-oil, and seal-oil.

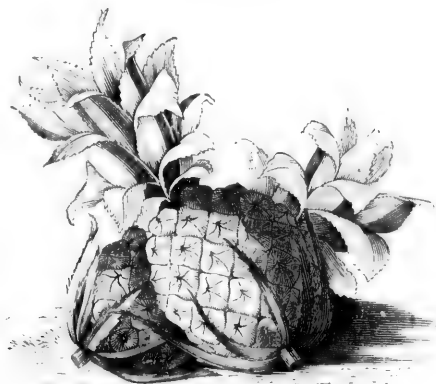
The principal town or village is *New Archangel*, on *Sitka Island*, containing about 1000 inhabitants.

The chief pursuits are fishing and hunting.

QUESTION.—A ship sails from Boston to New Orleans and back; what freights would she probably carry?

EXERCISE ON THE GLOBE.—When it is 12 o'clock noon at Portland, what time is it at San Francisco?

MEXICO.



PINE-APPLE.

I. History.—349. At the time of the discovery of America, Mexico was inhabited by a powerful Indian nation called *Aztecs*, who were far advanced in civilization.

In 1521, after two years of cruel and treacherous warfare, Cortez with a band of Spaniards conquered the *Aztecs*, and destroyed *Tenochtitlan*, their capital. The name Mexico is said to have been derived from *Mexilli*, the Aztec god of war.

350. Mexico gained its independence from Spain in 1822, and established a republican government in 1824. Since this date, nearly half the original territory, including Texas, New Mexico, Arizona, and Upper California, has been annexed to the United States.

In 1862, Mexico was conquered by a French army, and formed into an empire, under the Austrian prince Maximilian. On the withdrawal of the French army in 1867, Maximilian, unable to hold his position against opposing factions, was taken prisoner and shot by order of Juarez. The country is now in a state of anarchy.

II. Position.—351. Mexico occupies the whole breadth of the continent between the United States and Central America.

The Rio Grande forms the north-eastern boundary.

III. Form.—352. The outline resembles a *cornucopia*.

EXERCISE.—Draw the approximate form of Mexico.

IV. Coast.—353. The principal inlets are the *Gulf of Campeachy*, *Gulf of California*, and the *Gulf of Tehuantepec*.

The best harbours are on the west coast.

The capes are *Catoche*, *Corrientes*, and *St. Lucas*.

The peninsulas are *Yucatan* and *California*.

EXERCISE.—Trace the coast line and boundary lines around the approximate form.

V. Area.—354. The area is about one-fourth the size of British America, or is equal to a square of 926 miles.

VI. Surface.—355. With the exception of low lands along the coast of the Gulf of Mexico, the surface is principally table-land from 6000 to 8000 feet high.

In the northern part of the country there are three mountain ranges—the *Cordillera de Coahula*, on the east; the *Cordillera de Sonora*, on the west; and the *Sierra Madre*, in the middle. In a line east and west, near the 19th parallel, several volcanic peaks rise like colossal mounds from the plateau. The most important are *Orizaba* (17,374 feet), *Popocatepetl* (17,720 feet), and *Iztaccihuatl* (15,705 feet).

The plateau rises precipitously near the Pacific coast. From the broader plain on the east the ascent is less abrupt; but even here there are only two carriage roads to the interior.

VII.-IX.—356. The rivers are generally mountain torrents. The *Rio Grande*, on the north-eastern frontier, and the *Colorado*, crossing the north-west corner, are the chief exceptions.

Small lakes are numerous on the plateau. *Chapala*, equal to a square of 36 miles, is the largest.

The soil is generally fertile, but badly cultivated.

X.-XIII.—357. The climate varies according to the elevation, from tropical heat on the low coasts, to the regions of perpetual snow on the extreme mountain heights.

The hot, moist region of the Gulf coast, extending about 50 miles inland, is very unhealthy. The table-lands often suffer from drought.

358. The minerals are silver, gold, quicksilver, iron, copper, tin, lead, and zinc.

The silver mines were long accounted the richest in the world. They are less productive than formerly.

359. **Vegetation** is diversified according to the elevation.

The lowlands yield mahogany, dye-woods, vanilla, cotton, coffee, sugar-cane, maize, indigo, pepper, bananas, and various tropical fruits. The table-lands of the interior produce the forest trees, grains, and fruits of temperate regions.

Various species of cactus are common. One kind furnishes food for the cochineal insect. Another, called the *maguay*, is cultivated for its juice, which is the favourite beverage of the inhabitants.

360. Wild animals are numerous. The jaguar and puma are the most formidable.

Immense herds of the bison, musk-ox, and mustang or wild horse, roam over the northern plains. The horse was introduced by the Spaniards. Alligators, rattlesnakes, and myriads of insects are found on the lowlands. The cochineal insect is of great commercial value.

XIV. and XV. Inhabitants.—361. The population is estimated at 8,250,000, of which the Indians form nearly five-eighths, Spaniards one-eighth, and mixed races one-fourth.

The Spaniards are generally the most wealthy class. Many of the Indians are in a very degraded condition.

Nearly all the inhabitants are Roman Catholics.

Education is greatly neglected.

362. Mexico contains many remains of its ancient civilization, such as aqueducts, statues, pyramids, and other works of art. The most

remarkable are the ruins of *Chichen* in Yucatan, and the *Pyramid of Cholula* a few miles east of Puebla. The latter is built of sun-dried brick, is 1423 feet square at the base, and is 164 feet high.

XVI. Towns.—363. All the large towns are situated on the table-land. *Mexico City*, the capital, is 7470 feet above the sea, and is overlooked by lofty volcanic mountains.

Mexico (200,000) is a beautiful and wealthy city, containing many magnificent public buildings. Churches and convents are numerous. The city is on the margin of a lake, and occupies the site of the Aztec capital.

364. There are many other large cities, as *Guadalajara*, *La Puebla*, *Guanajuato*, *Zacatecas*, *San Luis*, *Colima*, and *Merida*. The principal ports on the east are *Vera Cruz*, *Matamoros*, *Tampico*, and *Campeachy*; those on the west coast are *Mazatlan*, *San Blas*, and *Acapulco*. *Vera Cruz* has a poor harbour, and is very unhealthy, being seldom free from yellow fever.

XVII. and XVIII.—365. The chief industries are mining and agriculture.

The manufactures are unimportant. The exports embrace metals, cochineal, hides, mahogany, and medicinal herbs. The imports include almost all kinds of manufactured goods, liquors, and fish.

366. The government is republican, but it is weak and unsettled.

The want of an enlightened and steady government has seriously retarded the prosperity of Mexico.

QUESTION.—A vessel sails from Halifax to Vera Cruz and back; what freights would she probably carry? Which trip would likely take the longer time; and why?

CENTRAL AMERICA.

I. History.—367. Central America, so called from its position, was discovered by Columbus in 1502. It continued a dependency of the Spanish Crown until 1823, when it threw off the Spanish yoke and formed itself into a Federal Republic, consisting of five States. The union was dissolved in 1839. Since this date the various States have been disturbed by almost constant internal strife.

II. Position.—368. Central America naturally embraces the whole country between the Isthmuses of Tehuantepec and Panama. Its political bounds are less extensive, Yucatan belonging to Mexico, and the extreme south to New Granada. It is wholly in the Torrid Zone.

III. Form.—369. The form is triangular, with a deep notch at the Gulf of Honduras.

IV. Coast.—370. The *Gulf of Honduras* is the principal inlet; the most important cape is *Graciosa a Dios*; and the chief islands on the coast are the *Bay Islands* in the Gulf of Honduras.

V. Area.—371. The area is eleven times the size of Nova Scotia, or equals a square of 444 miles.

VI.—XIII.—372. The physical features and products are similar to those of Mexico.

The table-land becomes quite low towards the Isthmus of Panama. Cone-shaped volcanoes are numerous. *Agua*, 15,000 feet high, is the greatest elevation.

373. The principal lakes are *Nicaragua*, 140 miles long; and *Managua* or *Leon*. Both are in the basin of the *San Juan*. It has been proposed to construct a ship canal through these lakes, connecting the Pacific with the *San Juan*.

374. The climate on the low coast is very unhealthy, especially in the wet season which begins towards the end of May. The interior is dry and healthy, but is subject to violent earthquakes.

The minerals, plants, and animals are like those of Mexico.

XIV. Inhabitants.—375. The population is estimated at 2,300,000.

The Indians are the most numerous. Nearly all the inhabitants are Roman Catholics.

XV. Divisions.—376. Central America consists of the following six divisions:—

Name.	Size compared with Nova Scotia.	Population.	Chief Towns. (Capitals in Black Letter.)
GUATEMALA.....	2½	850,000	{ New Guatemala 60,000 Quesaltenango, St. Thomas.
HONDURAS.....	2½	350,000	{ Comayagua (18,000), Omoa, Truxillo.
SAN SALVADOR.....	½	600,000	{ San Salvador , Cojutepeque, Acajutla.
NICARAGUA.....	3	400,000	{ Managua , Leon (35,000), Realejo, San Juan, Greytown.
COSTA RICA.....	1½	120,000	{ San José (30,000), Carthage, Puntas Arenas.
BRITISH HONDURAS	1	11,000	{ Balize.

377. *Guatemala* lies principally along the Pacific. It contains a remarkable water volcano.

Honduras, along the Bay of Honduras, is noted for its forests of logwood and mahogany. The Bay Islands were ceded to this State by Great Britain in 1860.

San Salvador is wholly on the Pacific coast.

Nicaragua, including *Mosquito Territory*, which was acquired in 1860, extends from sea to sea.

Costa Rica is the most southerly and the most prosperous State.

378. *British Honduras*, situated on the west coast of the Bay of Honduras, is valuable for its forests of logwood and mahogany. Negroes form the majority of the population. It is governed by a Superintendent who is subordinate to the Governor of Jamaica.

XVI. Towns.—379. As in Mexico, the large towns are on the table-land. Many of them have suffered greatly at different times from earthquakes. To guard against this danger, the houses are generally low.

380. *New Guatemala* manufactures muslins and artificial flowers. *Old Guatemala*, 21 miles distant, in a valley between two volcanoes, was destroyed by an earthquake in 1773.

Omoa is one of the hottest and most unhealthy places in the world.

381. *San Salvador* was visited by an earthquake in 1854. Every building, with a single exception, was thrown down, and 5000 persons lost their lives.

Leon is one of the finest cities of Central America.

Carthage was almost wholly laid in ruins by an earthquake in 1841. *Istapa*, *St. Thomas*, *Omoa*, *Truxillo*, *Acajutla*, *Libertad*, *Realejo*, *San Juan*, *Greytown*, *Puntas Arenas*, and *Matina*, are sea-ports.

XVII. and XVIII.—382. The chief industries are agriculture, mining, and the exportation of logwood, mahogany, and other dye-stuffs.

The exports include silver, mahogany, logwood, cochineal, indigo, sarsaparilla, gums, and coffee.

383. The form of government in the five independent States is republican. The governments are wanting in strength and vigour. The roads and other public works are greatly neglected, and the resources are almost wholly undeveloped.

WEST INDIES.



SUGAR PLANTATION.

I. History.—384. These important islands include the first discoveries of Columbus in the New World. The name *West Indies* originated through the erroneous opinion entertained by Columbus and others of his time that the archipelago was near India, on the south of Asia.

The West Indies were sometimes called *Antilles* or *Opposite Isles*, from their position with respect to the continent of America.

II.-IV. Position.—385. The West Indies are situated between North and South America, and are supposed by some to be the remains of mountains which once united these great divisions. All the more important islands are in the northern half of the Torrid Zone. They consist of three groups—the *Bahamas*, the *Great Antilles*, and the *Little Antilles*.

386. The *Bahamas* or *Lucayos* lie to the south-east of Florida, from which they are separated by the Gulf Stream. Including rocky islets, they are about 500 in number. The principal are *Great Bahama*,

Abaco, *Eleuthera*, *New Providence*, *Andros*, *San Salvador*, *Inagua*, *Turk's*, and *Caicos Islands*.

387. The *Great Antilles*, consisting of *Cuba*, *Hayti*, *Porto Rico*, and *Jamaica*, lie on the east of the peninsula of Yucatan, between 18° and 22° N. lat.

388. The *Little Antilles* are on the east of the Caribbean Sea, extending in a semi-circular line from the east of Porto Rico to the coast of South America. They are usually divided into three groups—the *Virgin Islands*, in the north; the *Leeward Islands*, in the middle; and the *Windward Islands*, in the south.

389. The *Virgin Islands* comprise *Tortola*, *Anegada*, *Virgin Gorda*, *St. Thomas*, *St. John*, *Santa Cruz*, *Culebra*, and *Bique*.

The *Leeward Islands*—*Antigua*, *Anguilla*, *St. Christopher*, *Nevis*, *Barbuda*, *Montserrat*, *Dominica*, *Guadeloupe*, *Marie-Galante*, *Desirade*, *St. Martin*, *Saba*, *St. Eustatia*, and *St. Bartholomew*.

The *Windward Islands*—*St. Lucia*, *St. Vincent*, *Barbadoes*, *Grenada*, *Tobago*, *Trinidad*, and *Martinique*.

Curacao, *Oruba*, and *Buen Ayre*, lie along the coast of South America. Viewed with respect to the trade-wind, the Leeward Islands are properly windward.

V. Area.—390. The total area of the West Indies is a little more than five times the size of Nova Scotia, or equals a square of 310 miles.

The Great Antilles comprise over five-sixths of the whole area.

VI.-X.—391. The surface is varied. Some of the islands are mountainous, others are low and of coralline formation.

The Bahamas are low and are surrounded by shoals and reefs.

An elevated mountain-chain runs length-wise through the Great Antilles. The *Sierra del Cobre*, in the east of Cuba, have an extreme elevation of 8000 feet; the *Blue Mountains* of Jamaica, 7000 feet. Many of the smaller islands rise to the height of 4000 or 5000 feet, and some of them have active volcanoes.

The soil is very productive.

392. The climate is hot and unhealthy.

The intense heat is somewhat modified by refreshing sea breezes which prevail in the afternoon. Frosts sometimes occur in the highlands, but snow is unknown. A long rainy season, accompanied by violent tempests, continues from July till November. A long dry season prevails from November to March.

The islands are subject to tremendous hurricanes and earthquakes.

XI.-XIII.—393. The minerals include copper, found in all the Great Antilles; gold, silver, quicksilver, and platina, in Hayti; gold, iron, and lead, in Porto Rico; salt, in the Bahamas; and asphalt, in Trinidad.

394. Tropical plants of almost every variety grow luxuriantly. The staple products are sugar-cane, coffee, tobacco, maize, indigo, cacao, pimento, and other spices.

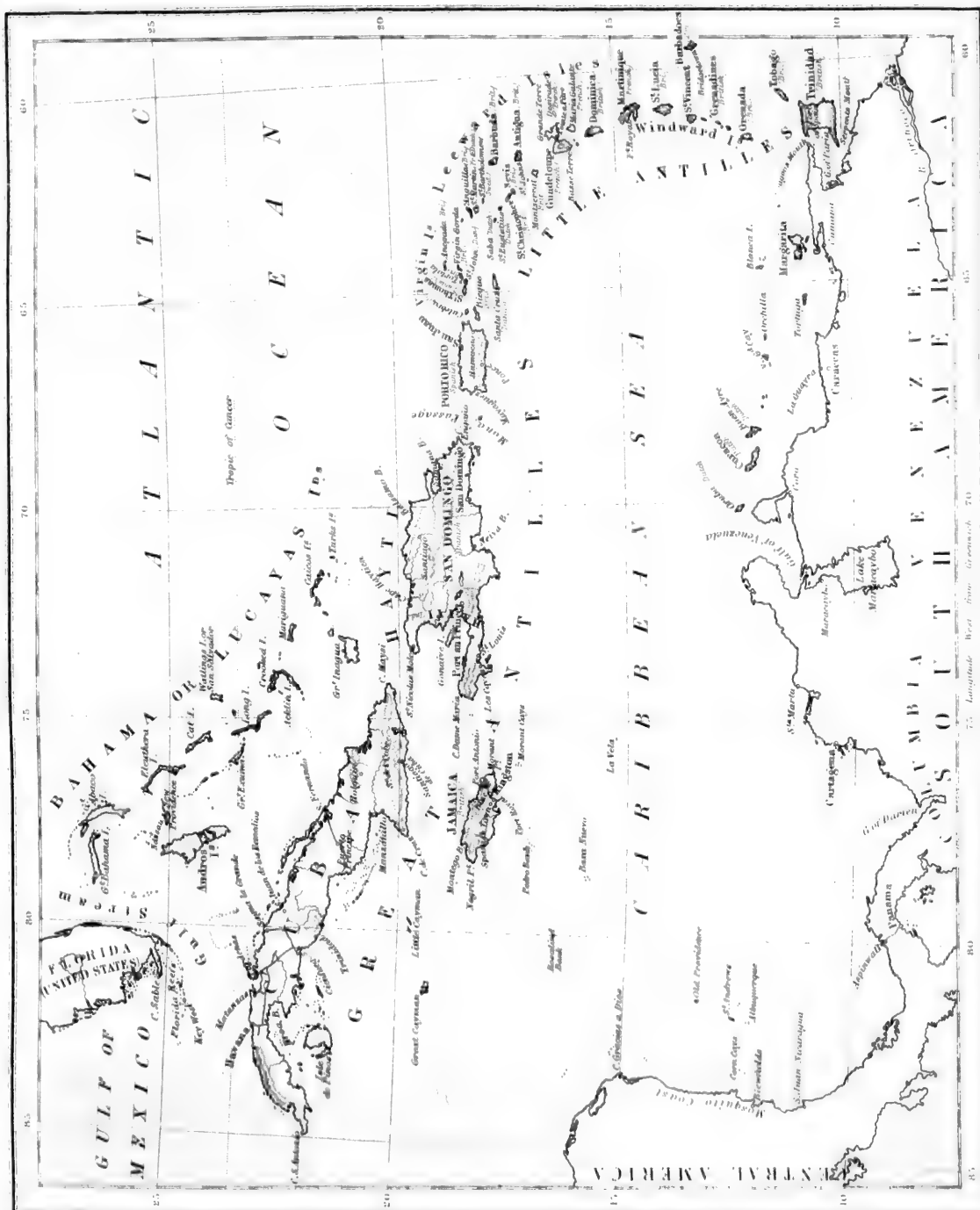
The fruits include pine-apples, oranges, bananas, and cocoa-nuts. The forests yield mahogany and dye-woods.

395. Wild animals are few and small. There are many beautiful birds and insects.

XIV. Inhabitants.—396. The population is about 3,890,000.

About one-sixth of the inhabitants are whites; the remainder are negroes and mulattoes. The negroes were formerly slaves. They are now free in all the islands except those belonging to Spain. Slavery

WEST INDIES



English Miles
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Scale of 100 Miles to an Inch
One Square Inch comprises 2500 times the Area of the English Acre

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was abolished in the islands belonging to Britain, in 1834, the British Government paying \$100,000,000 as compensation to the owners of the slaves.

In less than half a century after the discovery of the West Indies, the native Indian population was all but extinguished by Spanish cruelty.

397. Education is greatly neglected. Wealthy families send their children abroad to be educated. Roman Catholics are the most numerous religious body. Spanish, French, and English are the prevailing languages.

XV.-XVIII.—398. The West Indies are nearly all owned by European Powers.

Spain owns about two-thirds of the whole area; Great Britain over one-seventh.

The following table shows the political connection:

Ruling Power.	Islands.	square miles which they contain.	Population.
SPAIN	Cuba, Porto Rico, east of Hayti, and other small islands	257	2,200,000
	Bahamas, Jamaica, Tortola, Anguilla, Virgin Gorda, Antigua, Anquilla, St Christopher, Nevis, Barbuda, Montserrat, Dominica, St. Lucia, St. Vincent, Barbadoes, Grenada, Tobago, Trinidad	118	925,000
BRITAIN	Hayti west end	100	500,000
	Guadeloupe, Marie-Galante, Desirade, St. Martin (north end), Martinique ..	30	270,000
FRANCE	St. Thomas, St. John's, Santa Cruz	11	37,100
DENMARK	St. Martin (south end), Saba, St. Eustatia, Curacao, Oruba, Buen Ayre	21	100,000
HOLLAND	St. Bartholomew	1	100,000
SWEDEN	Maracaibo, Tortuga	22	200,000
VENEZUELA			

399. Cuba is about 750 miles long, and is larger than all the other islands combined.

Havana (134,000), the capital, has a superior harbour, and is the largest and most commercial city in the West Indies. It is connected with the other principal places by railroads. Its cathedral contains the remains of Columbus. Havana cigars have great celebrity. The other important towns are Santiago de Cuba, Puerto Principe, and Matanzas.

The principal exports of Cuba are sugar, coffee, tobacco, wax, and mahogany; the imports are flour, fish, beef, and manufactured goods. The labour is chiefly performed by slaves, of whom there are about 500,000.

Cuba has a military Government. The head officer is styled Captain-General. A large part of the revenue is sent to Spain.

400. Porto Rico, about 90 miles in length, is the fourth in size of the Great Antilles.

The soil is very fertile. San Juan (20,000) is the capital. The exports are similar to those of Cuba.

The laws of Porto Rico oblige every labourer to keep a journal of each day's labour, duly certified by his employer. For every idle day not excused by medical certificate, the labourer is compelled to work a day on the public roads.

401. Hayti was called Hispaniola by the Spaniards. The east end of the island, comprising about three-fifths of the whole area, is known by the name of San Domingo.

The west end of the island, or Hayti, was ceded to France by Spain, in 1773. The negroes of this portion, towards the end of last century, massacred the white inhabitants and asserted their independence. It still continues an independent Negro State. Until recently, no white man was allowed to hold real estate within its borders. Port au Prince (30,000), is the capital. Cape Haytien is an important town.

San Domingo was also independent for a number of years, but it submitted again to Spain in 1861. San Domingo (15,000), the capital, was the first permanent Spanish settlement in America. Santiago is an important town.

The unsettled condition of the government of this island has retarded its prosperity.

402. Jamaica was taken from Spain by England in 1655. A negro insurrection on a portion of the island, in 1865, was quelled with fearful retribution by the local government.

Jamaica is 150 miles in length, and is about one-third the size of Nova Scotia. The population is 441,000, of which only about 14,000 are white. Spanish Town is the capital. Kingston (35,000), the largest town, has a fine harbour.

The exports include sugar, rum, coffee, cotton, pimento, ginger, and various other tropical products. The imports are flour, fish, lumber, and manufactured goods. The products have greatly decreased.

The government is vested in a Governor and Council. The islands, noted for salt, form a dependency of Jamaica.

403. The Bahamas are believed to include the first land discovered by Columbus. The most of the islands are barren rocks; but wherever soil exists it is very fertile. The products are arrowroot, cotton, sponge, and fruits. Nassau (7000), the capital, is on New Providence. Population of Bahamas, 25,000.

404. Antigua, equal to a square of 104 miles, is the most important of the Leeward Islands. It has suffered much from earthquakes. St. John's (15,000) is the capital. St. Peter's is the next in size.

405. Barbadoes is noted for its fertility, and is nearly all under cultivation. It equals a square of 13 miles, and has a population of 153,000. Bridgetown (20,000) is the capital.

406. Trinidad, situated off the mouth of the Orinoco, is the second in size of the British West Indies, being nearly as large as Providence Island. It is remarkable for its pitch lake and mud volcanoes. The population is 84,000. Port of Spain (10,000) is the capital.

407. The Bermudas consist of about 400 low coralline islets and rocks, 600 miles east of Cape Hatteras. They are not properly included in the West Indies. Only five of the islands are inhabited, of which Main Island, 14 miles in length by 13 in breadth, is the largest. The united area does not exceed a square of 6 miles. The population is about 12,000. The climate is like perpetual spring. The products are arrowroot, potatoes, fine fruit, and vegetables. Hamilton, on Main Island, is the largest town. St. George, on an island of the same name, is a military station. Ireland Island is a British naval station, for which a cast-iron dock, capable of receiving the largest war-ships, is being made in England.

408. Santa Cruz and St. Thomas, belonging to Denmark, are the most important of the Virgin Isles.

Negotiations are now pending for the sale of the islands to the United States.

St. Thomas equals a square of $4\frac{1}{2}$ miles. It owes its chief importance to its excellent harbour and central position as a packet station. Mails for the other islands, as well as for Mexico, Central America, and South America, are sent to St. Thomas, which has regular steam communication with these places. In the autumn of 1867 St. Thomas was visited by a terrific hurricane, followed by repeated earthquakes, resulting in great destruction of life and property.

409. **Guadeloupe**, equal to a square of 23 miles, is the most important of the French islands. The population is 135,000. *Point-a-Pitre* is the largest town.

Martinique contains several extinct volcanoes. *St. Pierre* is the chief port.

QUESTIONS.—(1.) A vessel sails from Arichat, Nova Scotia, to Havana, and thence to Halifax; what freights would she probably carry?

(2.) A cask of oil from a vessel wrecked off the west of Africa was thrown upon the coast of Scotland; by what course did it travel?

DANISH AMERICA.

410. The American possessions of Denmark consist of the islands of Greenland and Iceland.

Iceland has usually been considered as a European island, but it is, by proximity, more closely connected with America.

GREENLAND.

I.-IX.—411. Greenland received its name from the verdure of the grass and moss on the southern coast.

The south-west coast was colonized by Norwegians in the tenth century. When Greenland was re-discovered in 1587, by Davis, the Norwegian colony was wholly extinct.

412. The area is estimated at twenty times the size of Nova Scotia, or equal to a square of 616 miles.

413. The surface is generally elevated and rocky. The highlands and the northern part of the country are covered with perpetual snow and vast glaciers, which often extend to the sea-shore.

The east coast is almost inaccessible in consequence of drift ice. Some suppose the country consists of a cluster of islands bound together by ice beneath the snows and glaciers.

X.-XIII.—414. The climate is very severe. July is the only month in which snow does not fall.

415. The vegetation in the south-west consists of shrub willows, alders, and birches, and various grasses. Culinary vegetables are cultivated.

416. The animals are the rein-deer, polar bear, seal, Esquimaux dog, hare, and fox. Aquatic birds are numerous.

XIV.-XVIII.—417. The population is estimated at 10,000.

The most of the inhabitants are Esquimaux, many of whom have been converted to Christianity by Moravian missionaries. They are



WALRUS HUNT

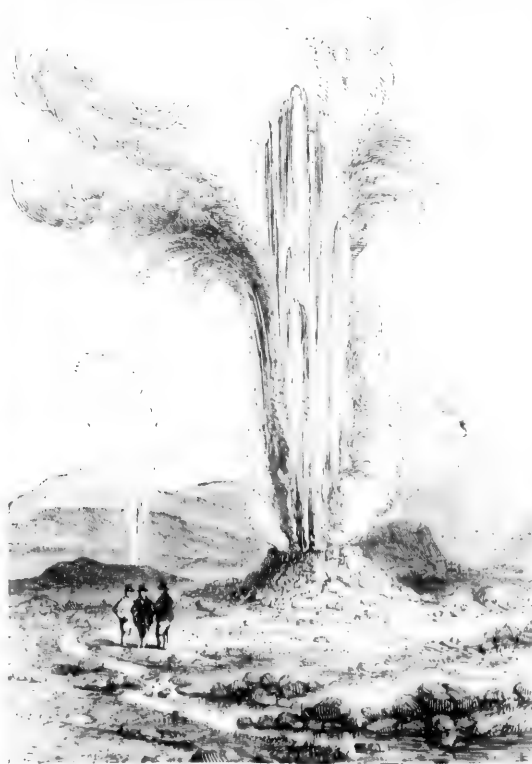
found principally along the west coast, and are engaged chiefly in hunting and fishing. Their winter houses are mostly under ground. (*See North America*, 348.)

418. There are several Danish villages on the west coast. The most important are *Julian's Harbour*, *Frederick's Harbour*, *Good Harbour*, and *Upernavik* (N. lat. $72^{\circ} 40'$).

419. The exports are seal oil, seal skins, whale oil, elder down, and furs.

ICELAND.

I.-V.—420. Iceland was discovered by a Norwegian sea king in 870. It was then without inhabitants, but was afterwards occupied by colonists from Norway. It has been subject to Denmark since 1385.



GEYSERS.

421. Iceland is about 130 miles from Greenland, and 550 miles from Norway. N. lat. $63^{\circ} 24'$ — $66^{\circ} 33'$.

The coast, except on the south-east, is much indented with deep bays, and the shores are lined with rocky islets.

The area is about twice the size of Nova Scotia.

VI.-IX.—422. The surface is rugged and mountainous, presenting a wild and desolate aspect. The mountain sides are covered with vast glaciers, frequently extending to the sea. There are thirty known volcanic peaks, and extensive plains are covered with fractured lava. Basaltic caves and deep crevasses are numerous.

423. *Mount Hecla*, though not the most elevated, is the most noted volcanic peak in Iceland. During an eruption in 1845 and 1846, the lava stream, at the distance of two miles from the crater, was a mile wide and 40 feet deep.

424. Small streams and lakes are numerous. The most remarkable phenomena of Iceland are the hot springs. The most noted is the *Great Geyser*, near Mount Hecla. It generally appears as a small pool on the summit of a mound. At irregular intervals boiling water is thrown to the height of 100 feet.

X.-XIII.—425. The climate is severe and variable, but the mean annual temperature is higher than in any other country as far north.

426. The minerals are sulphur, chalcedony, and double refracting spar.

427. The native plants include shrubs, grasses, and moss. Potatoes, turnips, and other vegetables, are cultivated. Fine pasturage is afforded along the south-west of the island. Valuable drift-wood is brought by ocean currents.

428. The animals include numerous rein-deer and foxes. The polar bear sometimes comes as a passenger on drift ice. Sea-fowl are numerous. The fisheries are very valuable. Many sheep, cattle, and horses are reared.

XIV.-XVIII.—429. The population is about 65,000. The inhabitants are principally of Norwegian descent, generally intelligent, and profess the Lutheran religion.

430. *Reikiavik* (1000), near the south-west coast, is the capital. The exports consist of wool, butter, eider down, fish, and oil. The imports include manufactures and flour.

431. The government is vested in a Governor, appointed by the King of Denmark, and a Legislative Assembly.

EXERCISE.—Find the length of the longest day at Upernivik.

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to mostly under ground.

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Ferick's Harbour, Good

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SOUTH AMERICA.

I. History.—1. The whole of South America, except Patagonia, was conquered and colonized by the Portuguese and Spaniards early in the sixteenth century. The eastern portion, or Brazil, became subject to Portugal; and the remainder from the Caribbean Sea to Patagonia, to Spain.

The native Indians were treated with great cruelty, and were made to toil like beasts of burden, to gratify the avarice of their conquerors.

2. The Spaniards and Portuguese held their possessions in South America about three hundred years. During the first quarter of the nineteenth century, the Spanish States, after severe struggles, gained their independence. Brazil obtained peaceable separation from Portugal in 1822.

Guiana, in the north, is the only portion of South America now owned by Europeans.

II. Position.—3. South America is situated on the south-east of North America, with which it is connected by the Isthmus of Panama, from 30 to 70 miles in breadth. On the north-west, between the main bodies of the continents, are the Caribbean Sea and the Gulf of Mexico; for the most part, the South Atlantic washes the east coast; the South Pacific, the west. The greater part of the continent is in the Southern Hemisphere, and about three-fourths of its area are within the Torrid Zone. It is opposite to Africa, in the Eastern Hemisphere.

Lat 11° 20' N. 56° S.; Lon. 35°—81° 30' W.

III. Form.—4. The form is triangular, one side being on the north-east, one on the south-east, and the third upon the west.

If a triangle be formed by drawing lines between Cape Gallinas in the north, Cape St. Roque in the east, and Cape Horn in the south; and a small triangle be applied to the west side of this triangle, by drawing lines between Cape Gallinas, Cape Blanco, and the Gulf of Arica, the approximate form of South America will be obtained.

EXERCISE. Draw the approximate form of South America.

IV. Coast. 5 The coast line is remarkably regular. There are no inland seas or projecting peninsulas.

The principal **Coast Waters** are the *Gulf of Darien*, *Gulf of Venezuela* and *Lake Maracaybo*, *Gulf of Paria*, *mouth of the Amazon*, *mouth of the La Plata*, *Gulf of San Matias*, *St. George's Bay*, *Strait of Magellan*, *Gulf of Arica*, *Gulf of Guayaquil*, *Bay of Panama*.

The **Capes** are *Gallinas*, *St. Roque*, *Friso*, *St. Antonio*, *Horn*, *Provident*, and *Blanco*.

6. The **Islands** are *Trinidad* and several of the smaller West Indies; *Joannes* or *Marajo*, in the mouth of the Amazon; *Falkland Isles*; *Terra del Fuego*; *Cape Horn Island*; a chain extending northerly from Cape Horn, ending with *Chiloe*; *Juan Fernandez*; and *Galapagos*.

7. The **Falkland Isles**, 300 miles east of Patagonia, consist of about 200 islands, of which only two, *East Falkland* and *West Falkland*, are of considerable size. The coast is much indented, and its good harbours are a refuge for southern whalers and ships passing around Cape Horn. The islands are destitute of trees; but they abound in grass, which sustains large herds of wild cattle and horses. The inhabitants number about 600. The islands belong to Great Britain.

8. **Terra del Fuego** (*Land of Fire*) is separated from the mainland by the Strait of Magellan. It consists of several rocky islands, containing volcanic mountains. The natives are of smaller stature than the Esquimaux, and are among the most degraded and wretched of savages. They wear little clothing, and subsist principally on fish. Their dwellings are miserable huts, about eight feet in diameter and five feet in height.

Cape Horn is the southern point of a high black rock in the ocean.

Juan Fernandez, 400 miles west of Chili, is 18 miles in length, and is celebrated as the solitary residence, for four years, of the shipwrecked mariner Alexander Selkirk, on which was based the story of "Robinson Crusoe." The island belongs to Chili. The *Galapagos*, 700 miles west of Ecuador, consist of a group, the largest of which is 60 miles long. They are celebrated for their large turtles, from which they derive their name.

EXERCISE.—Trace the coast line of South America, marking coast waters, capes, and islands.

V. Area.—9. South America is a little more than four-fifths the size of North America.

The area equals a square of 2050 miles. The length of the continent is 4550 miles; the breadth, 3200 miles.

VI. Surface.—10. The surface, like that of North America, consists of a great highland region on the west, another of less elevation on the east, and a central plain between them.

11. The *Andes*, along the whole western side of the continent from the Caribbean Sea to Cape Horn, and varying from 50 to 150 miles from the Pacific, form the great mountain system of South America. It is computed that with their plateaus and slopes they cover nearly one-sixth of the continent. In the north there are three ranges; throughout the middle and principal part of the continent there are but two ranges; and in the south there is but one range.

SOUTH AMERICA

IX

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CROSSING THE ANDES

The most elevated peaks are four and a half miles in height, and are exceeded only by the loftiest peaks of the Himalayas in Asia.

12. The two ranges are separated by an elevated valley or table-land, from 6,000 to 13,000 feet in height, and having an average breadth of 20 miles; but attaining in the plateau of Bolivia an extreme breadth of 100 miles. The valley is divided into basins by cross ridges. The summits are barren and rocky plains, with numerous snow-clad peaks rising above the general level.

13. The average height of the Andes is greatest in Ecuador and Bolivia, and here also are found some of the highest peaks. *Neveda de Sorata*, in Bolivia, rises to the height of 21,246 feet. *Chimborazo*, in Ecuador, has an elevation of 21,422 feet above the sea-level. Its height above the valley of Quito at its base is 11,053 feet. It was once thought to be the highest mountain in the world.

Further south, the general height of the Andes is much less; but the peak of *Aconcagua*, in Chili, rising far above the ordinary level, has an elevation of 23,010 feet. This is the highest known point in America.

14. The Andes abound in deep gorges, sometimes called *quebradas*, at the bottom of which are rushing foaming streams. These breaks are sometimes from 2000 to 3000 feet in depth. They often present almost insuperable difficulties to the traveller in crossing the mountains, taxing to the utmost his courage and powers of endurance. Sometimes his path lies along the edge of rocky precipices, with scarce

a foothold, where a single false step would hurl him into the depths below; sometimes it leads him beneath impending rocks which threaten to dash him in pieces; and sometimes it lies over a yawning chasm bridged by the trunk of a tree. Often the native Indian alone is competent for the perilous task, and the traveller is borne upon his back.

15. Numerous lofty volcanoes form a remarkable feature of the Andes. There are about thirty in a state of activity. *Cotopaxi*, 18,875 feet high, is one of the most noted volcanoes in the world. Its flames are sometimes seen to rise 3000 feet above the crater, and its roaring is heard over 500 miles. *Pinchinca*, *Antisana*, and *Chimborazo* are also noted volcanoes.

The Andes, and the regions in their neighbourhood, are often visited by tremendous earthquakes, by which many cities have been destroyed and thousands of lives lost.

16. The Atlantic Highlands of South America, like those of North America, are divided into two portions. The low valley of the Amazon lies between the two sections.

The northern section, situated between the valleys of the Orinoco and the Amazon, is much the smaller; but it contains the greatest elevations. Its principal mountains are the *Parime* and the *Acarai*, extending east and west, and having an extreme height of 10,000 feet.

The southern section comprises a large part of Brazil. It has several irregular mountain ranges, generally extending north and south. The



CONDOR.

highest is between the coast and the San Francisco; but it does not exceed 6000 feet. A water-shed extends across the middle of this section from north-west to south-east.

17. The lowlands of South America are principally in the interior, extending from the Caribbean Sea southerly, between the eastern and western highlands. They also include the valley of the Amazon and the eastern coast from the mouth of the La Plata to the Strait of Magellan. The lowlands are generally very level, particularly towards the north, where there is scarcely a water-shed between the basins of the Orinoco and the Amazon.

EXERCISE.—Lay down the mountains on the map of South America.

VII. Rivers.—18. The Andes form the great water-shed of South America, throwing all the important rivers of the continent to the Atlantic side. The streams on the Pacific slope are short and rapid.

The great rivers of South America are the *Orinoco*, the *Amazon*, and the *Rio de la Plata*. The first two obtain their largest supplies from the Andes; the last derives its principal waters from the highlands of Brazil.

The important rivers of South America not connected with either of the three great systems are the *Magdalena*, *Essequibo*, *San Francisco*, *Colorado*, and *Rio Negro*.

19. The Orinoco, the smallest of the three great rivers, is 1600 miles in length, more than half of which is without any obstruction to navigation. It drains a territory more than half the size of the Dominion of Canada, and 250 miles from the sea it has a breadth of four miles. It enters the ocean through various channels. By the *Cassiquiare* the Orinoco has navigable communication with the Rio Negro and Amazon. The principal tributaries are the *Guaviare*, the *Meta*, *Arauca*, and *Apure*.

20. The Amazon is the largest river in the world, having an extreme length of about 4000 miles, and carrying to the Atlantic the drainage of more than a third of South America. It has its principal sources in the Andes of Ecuador, Peru, and Bolivia, and drains the whole eastern slope for the distance of 1400 miles. It flows through a remarkably humid region, acquiring such a vast body of water that for the last 450 miles of its course it is never less than four miles broad. It enters the sea by two principal mouths, enclosing Joannes or Marajo Island, and it flows with such impetus that its waters are distinguishable 200 miles from the shore. The largest mouth is about 100 miles in breadth.

During the rainy season, the Amazon submerges vast tracts of lowland along its banks. It abounds in small islands, and is bordered with swampy regions, rendered impenetrable by the most luxuriant vegetation. This great river is the home of alligators, turtles, and many kinds of fish.

21. The principal tributaries of the Amazon are, on the left bank, the *Napo*, *Putumayo*, *Yapura*, *Rio Negro*, and *Trombetas*; on the right, the *Yucayali*, *Yarary*, *Purus*, *Madeira*, *Tapajos*, *Xingu*, and *Tocantins*.

The Amazon is navigable about 3000 miles, following the Yucayali; and it is estimated that the whole system affords not less than 10,000 miles of interior navigation for large vessels. A large part of its basin is covered with dense and unexplored forests.

22. The Rio de la Plata is properly an estuary of a great river

system. It is formed by the union of the *Parana* and *Uruguay*; being from the junction about 200 miles in length, and entering the ocean by a mouth 170 miles in breadth. Its waters are turbid, and can be traced 200 miles from the shore. It is estimated that the basin comprises nearly one-fourth of South America.

The principal tributaries of the Parana are the *Paraguay*, *Pilcomayo*, *Vermejo*, and *Salado*.

The extreme length to the source of the Paraguay is about 2500 miles; and the Parana is navigable 1250 miles for large vessels.

VIII. Lakes.—23. There are very few lakes. The principal are *Maracaybo*, communicating with the Gulf of Venezuela; and *Titicaca*, on the plateau of Bolivia.

Titicaca, 12,846 feet above the level of the ocean, is, with the exception of *Siri-Kol* in Asia, the most elevated lake in the world. It is about half the size of Lake Erie, and is overlooked by some of the loftiest peaks of the Andes. A stream called the *Desaguadero*, flows from *Titicaca* to a small lake on the south, but there is no outlet to the ocean.

EXERCISE.—Draw the rivers and lakes on the map of South America.

IX. Soil.—24. The soil is generally very fertile, except the rainless region west of the Andes and the barrens in the south of Patagonia.

X. Climate.—25. The greater part of South America is in the Torrid Zone, and has a hot climate. Between the tropics every variety of temperature is sometimes found in succession within a few miles—intense heat on the lowlands, the mildness of spring on the table-land, and perpetual winter on the mountain heights. (*See Physical Geography*, 86.)

The extreme south of the continent is very cold.

26. The most of South America is very humid. The valley of the Amazon receives the largest supply of rain, and during the dry season it is watered by copious dews. A rainless region is found between the Andes and the Pacific, in Peru, and Northern Chili. South of the 30th parallel south latitude the western side of the Andes has the largest supply of moisture.

27. Over the whole continent north of 30° S. the rain-winds blow from the Atlantic—the north-east and south-east trade-winds; and the year consists principally of two seasons, a wet and a dry. Throughout the wet season the rain pours in torrents over the whole tropical region east of the Andes, the cold heights of these mountains exhausting the air of moisture. Accordingly, on the west of the Andes, from Cape Blanco to 30° S. lat., there is little or no rain.

28. North of Cape Blanco the Andes take a north-easterly course; and the rain-winds crossing the isthmus are not obstructed by cold highlands, and accordingly bring their moisture to this part of the Pacific coast.

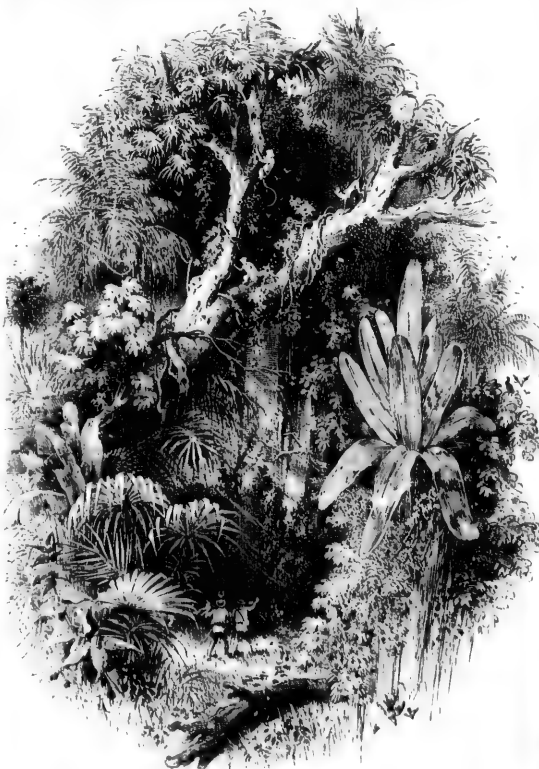
South of 30° S. lat. the rain-winds blow chiefly from the Pacific, and cross the region east of the Andes as dry winds. This region, however, is partially watered by rain brought by variable winds from the Atlantic.

The heat of the tropical regions of South America is much less in-

tense than in the corresponding portions of Africa. This is probably owing to the greater humidity of South America, its dense forests and lofty mountains.

XI. Minerals.—29. South America has been noted since its first discovery for its mineral wealth. The most important mines are the iron, diamond, and gold mines of Brazil, and the silver mines of Peru and Bolivia.

The mines of South America have been much less productive during the last half century than formerly. It is thought that this is rather owing to inefficient working than to exhaustion of the mines.



BRAZILIAN FOREST.

XII. Plants.—30. Except the rainless regions, the extreme mountain heights, and Patagonia, South America has a most luxuriant vegetation. Its forests contain palms, ferns, dye-woods, cabinet-woods, and medicinal plants of the greatest value. The cinchona, growing on the mountain slopes, yields the valuable medicine called quinine; and the caoutchouc yields a juice from which India-rubber is made.

One of the most remarkable plants of South America is the *Victoria Regia*, a gigantic water-lily, found in the rivers

of Brazil and Guiana. Its leaves are from 8 to 12 feet in length, and from 4 to 8 in breadth, and the flower is a foot in diameter.

31. Some of the most important products of South America are sugar-cane, coffee, cacao, maté or Paraguay tea, cinnamon, indigo, vanilla, cotton, and all the tropical fruits and spices.

The forests and general vegetation of the Andes vary with the elevation, from those of a tropical character at the base, and on through all the varieties of temperate climates along the slopes, to the mosses and lichens of the higher regions. (See *Physical Geography*, 115.)

32. The valley of the Amazon surpasses every other portion in its majestic and dense forests. The plains are called *selvas*—a Spanish word meaning forest. Here are found tall palms of a hundred different species, ferns, dye-woods, and other valuable trees, interspersed with shrubbery, and the whole so overgrown with climbing-plants that the traveller must cut a path before him.

33. The valley of the Orinoco contains many treeless plains called *llanos*. During the wet season they are covered with grass, which grows to the height of 10 or 15 feet; but in the dry season every plant perishes, and the ground is parched and barren as a desert.

34. South-west of the La Plata are plains called *pampas*, treeless like the *llanos*, but covered with a coarser grass, intermingled with rank trefoil. In some parts at certain seasons the pampas are covered with forests of thistles 10 feet high, which, after coming to maturity, are broken down and blown to powder by violent winds from the Andes, called *pamperos*.



JAGUAR.

XIII. Animals.—35. South America has no animals so large as some of those found in Asia and Africa. The largest is the tapir, which, though much smaller, somewhat re-

sembles the elephant. The condor, which is the largest bird of flight in the world, inhabits the lofty mountains.

The llama and alpaca are peculiar to the higher slopes of the Andes. The llama, which is tamed and used as a beast of burden on the mountain steeps, is called the camel of South America. The alpaca is a kind of goat, and is covered with a valuable hair or wool.

36. In the selvas are found the armadillo, sloth, and ant-eater, which are peculiar to South America; here also are the jaguar or South American tiger, the puma, troops of monkeys, the boa-constrictor, alligator, various kinds of serpents, and innumerable insects.

Vast herds of cattle and horses roam wild over the llanos and pampas. They do not belong to the native wild animals, but were introduced by the early Spanish and Portuguese colonists.

XIV. Inhabitants.—37. The population is estimated at 22,500,000, consisting of Indians, whites, negroes, and mixed races. They are generally ignorant and indolent. The Indians and mixed races are the most numerous. In some parts the Indians are the most industrious class, but they are generally uncivilized. Those of Patagonia are very tall, live a wandering life, moving principally on horseback, and subsisting on flesh of wild animals.

38. The white inhabitants are chiefly Portuguese in Brazil and Spanish in the other States; except a few English, Dutch, and French in Guiana. The prevailing religion is Roman Catholic.

The negroes were originally introduced as slaves; they are now free except in Brazil, where they form nearly half the population.

39. When America was discovered, Peru was occupied by Indians comparatively civilized. They had a regular government, large cities, temples richly ornamented with gold and silver, monuments, good roads, and other public works. There are yet in the country many remains of this Indian civilization.

XV. Divisions.—40. South America comprises fourteen political divisions, as in the following table:—

Name.	Sq. of square which area equals.	Population.	Capital.
COLUMBIA.....	721	2,360,000	Bocota.
Ecuador.....	545	1,000,000	Quito.
VENEZUELA.....	654	1,600,000	Caraccas.
BRITISH GUIANA.....	280	155,000	Georgetown.
DUTCH GUIANA.....	103	53,000	Paramaribo.
FRENCH GUIANA.....	136	26,000	Cayenne.
BRAZIL.....	1767	8,000,000	Rio Janeiro.
PERU.....	708	2,500,000	Lima.
BOLIVIA.....	682	2,000,000	Chuquisaca.
CHILE.....	409	1,600,000	Santiago.
ARGENTINE REPUBLIC.....	954	1,200,000	Buenos Ayres.
PARAGUAY.....	280	1,340,000	Asuncion.
URUGUAY.....	334	241,000	Monte Video.
PATAGONIA.....	515	30,000	

XVI. Towns.—41. Rio Janeiro, the capital of Brazil, is the largest city in South America. Many of the towns on the western side are upon the elevated table-land. *Pasco*, in Peru, has an elevation of 13,720 feet; *Potosi*, in Bolivia, of 13,330 feet. Many of the towns near the Andes have suffered greatly from earthquakes.

EXERCISE.—Trace the boundary lines between the various States of South America, and mark the position of the capitals.

XVII. Industries.—42. The chief occupations are agriculture, grazing, and mining.

The exports are skins, horns, tallow, beef, horses, alpaca wool, guano, dye-woods, indigo, cabinet-woods, medicines, coffee, spices, sugar, tropical fruits, gold, silver, and diamonds.

43. Political distractions and the want of energy in the inhabitants have interfered much with the development of the great natural resources of South America. But little attention is given to the cultivation of the soil, and manufactures are wholly neglected. The wealth of many of the inhabitants consists in cattle, which roam at large in a semi-wild state, giving little trouble to their owners except when it is required to catch them. This feat is performed by throwing a lasso over the head.

While the various States were governed by Spain and Portugal, they were subjected to the most oppressive restrictions, in order to secure a monopoly for home products. Thus they were compelled to cut down their vines lest they should interfere with the wine trade of Spain and Portugal.

XVIII. Government.—44. All the States formerly belonging to Spain have republican governments. Brazil is a limited hereditary monarchy. The three divisions of Guiana are respectively subject to England, Holland, and France.

The Governments of South America are weak, and exercise but little influence among the nations of the Earth.

COLUMBIA.

45. Columbia was once a Spanish vice-royalty. On gaining its independence in 1819, it united in a federal republic with Ecuador and Venezuela. This union was dissolved in 1830, each country becoming a separate republic. Columbia then took the name of New Granada. A new organization of the government was made in 1863, when the present name was adopted.

46. Columbia is in the north-west of the continent, and includes the narrow Isthmus of Panama.

The surface is mountainous in the west, being crossed by the three ranges of the Andes. The eastern side consists of llanos. The *Magdalena*, over 800 miles long, is the principal river. Its lower course abounds in alligators.

47. The soil is fertile, and the mineral wealth is great, but every branch of industry is neglected. The low plains are very unhealthy, but the valleys and slopes of the Andes are healthful and temperate. The forests are very extensive, yielding cabinet and dye woods. Immense herds of cattle feed upon the llanos.

48. The inhabitants consist of Spaniards, Indians, negroes, and mixed races. The mixed races comprise more than half. Many of the Indians are uncivilized.

Towns.—The chief towns are upon the table-lands of the Andes. *Bocota* (43,000) is the largest city. Its buildings are low, and have

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thick walls, to guard against earthquakes. *Cartagena* is an important port. *Aspinwall* and *Panama*, on opposite sides of the Isthmus, are connected by a railroad 50 miles in length.

49. The chief **exports** are cattle, mules, hides, tallow, tropical fruits, cabinet and dye woods, and emeralds.

The **government** is similar in form to that of the United States of North America.

ECUADOR.

50. Ecuador took its name from its situation on the Equator. It became a separate republic in 1830. (See *Columbia*.)

51. The **surface** is mountainous in the west, where the Andes form two ranges. Between these ranges are high valleys and table-lands, which comprise the principal cultivated land in Ecuador. The eastern part of the country belongs to the forest plains of the Amazon.

There are many lofty volcanic peaks in the Andes of Ecuador, as *Chimborazo*, *Cotopaxi*, *Pichinca*, and *Antisana*. *Cotopaxi* is remarkably symmetrical in form, presenting the appearance of a vast truncated cone.

52. The **climate** varies according to the elevation. The vast forests yield valuable timber, tropical fruits, cocoa, and the cinchona or Peruvian bark. Rice, pepper, sugar-cane, cotton, corn and wheat are cultivated.

A large proportion of the inhabitants are Indians, and they are the most industrious part of the population.

Towns.—53. *Quito* (76,000), the largest city, is near the Equator, on a plateau 9525 feet above the sea-level. It has a most delightful climate, but is exposed to violent earthquakes. In 1859 many of its buildings were thrown down, and 5000 inhabitants lost their lives. *Guayaquil* has a good harbour, and is the principal port. *Cuenca* ranks next to Quito in size.

The commerce of Ecuador is very small. The chief exports are, cocoa, tobacco, Peruvian bark, and fruits.

VENEZUELA.

54. Venezuela, which signifies *Little Venice*, took its name from an Indian village built on piles, which the early discoverers found on the low ground near Lake Maracaybo. They gave it this name from its resemblance to Venice in Europe.

Venezuela has been much disturbed by warring factions.

55. The **surface** is mountainous in the north-west and south-east; but a large part of the country consists of llanos.

The vegetation is luxuriant and varied. There are many species of palm-trees, of which the most valuable is the sago palm. Another valuable tree is called the cow-tree, which, on cutting into it, yields a juice resembling milk. Vanilla, cocoa, plantain, strychnos, and tree

ferns are also among the products. Cotton, coffee, sugar-cane, and indigo are cultivated.

The llanos are not suited to agriculture, as they are at different seasons subject to the extremes of humidity and drought. They sustain large herds of cattle.

The inhabitants consist largely of mixed races.

Towns.—56. *Caracas* (50,000), the most important town, has an elevated situation, 16 miles from the Caribbean Sea. The city was nearly destroyed by an earthquake in 1812. The event occurred on Holy Thursday, when most of the people were in the churches, and 12,000 persons lost their lives. *Caracas* was the birth-place of General Bolivar. *Maracaybo* and *Cumana* are the chief ports. The latter was nearly destroyed by an earthquake in 1853.

57. As in all the countries of South America, internal commerce is impeded through want of roads. The exports consist of cattle, hides, horns, sarsaparilla, and other products.

BRITISH GUIANA.



COFFEE PLANTATION.

58. British Guiana was settled by the Dutch in 1580. It was taken by the British in 1803, and was finally ceded to them in 1814. The limits of the country on the south and west are undefined.

59. The coast, from 10 to 40 miles inland, is low, and is protected from the sea by dikes. The interior is mountainous. The chief rivers are the *Essequibo*, *Demerara*, *Herbice*, and *Corentyn*, which are navigable from 50 to 150 miles. The *Corentyn* separates British and Dutch Guiana.

60. The soil is very fertile. The climate is hot and humid. There are two dry and two rainy seasons in the year. One rainy season occurs in December, January, and February; the other in June, July, and August. They are very unhealthy.

61. The most important cultivated **plants** are sugar-cane, coffee, yams, and maize. The forests are extensive, containing dye-woods, palms, and valuable timber. Tropical fruits and medicinal plants are also among the products.

62. The inhabitants consist of English, Dutch, Negroes, and Indians.

The country is divided into three districts—*Berbee*, *Demerara*, and *Essequibo*.

63. *Georgetown* (25,000), at the mouth of the Demerara, is the capital. It occupies a low damp situation, and is subject to yellow fever. The great majority of the inhabitants are negroes.

64. The chief **exports** are sugar, molasses, rum, and timber—total value, \$8,360,000. The **imports** are flour, pork, beef, fish, butter, staves, and manufactured goods.

65. The **government** is vested in a *Court of Policy*, consisting of the Governor, four official members, and five non-official. Revenue, \$1,500,000.

DUTCH AND FRENCH GUIANA.

66. Dutch Guiana is similar in physical features to British Guiana. It is very fertile, yielding coffee, cotton, and sugar-cane.

67. Nearly nine-tenths of the inhabitants are negroes. The slaves were emancipated by the Government of Holland in 1851; but they were required to work for their former masters, as apprenticed labourers without pay, for twelve years.

68. *Paramaribo* (20,000), on the Surinam, five miles from its mouth, is the capital and chief place of trade. Its streets are adorned with orange, lemon, and tamarind trees.

69. French Guiana was first settled by the French in 1604. In 1763, twelve thousand emigrants came out from France, three-fourths of whom perished from exposure to the unhealthy climate.

70. This country resembles the other divisions of Guiana in surface, soil, and products. It also yields pepper, cloves, cinnamon, and nutmegs. The island of Cayenne, on the coast, is noted for its Cayenne pepper. Guiana is used by France as a penal settlement.

Cayenne (3000), on the island of the same name, is the capital.

BRAZIL.

71. Brazil was discovered by a Portuguese named Pinçon in the year 1500. It is said that it derived its name from a native wood of a bright red colour, which the Portuguese called *brazas*, or *coals of fire*.

72. On the invasion of Portugal by the French in 1808, King John VI. came, with his court, to Brazil. During his residence here he greatly improved the condition of the country. In 1821 he returned to Portugal, leaving his son Pedro as regent. In accordance with the wish of the inhabitants, Pedro in the following year proclaimed Brazil an independent State, and assumed the title of Emperor.

73. Brazil has an extensive coast and many excellent harbours. The country is rather larger than the United States of North America. The greater portion lies south of the Equator. It comprises the greater part of the selvas and the southern section of the eastern highlands, including most of the basin of the Amazon.

74. The **soil** is very fertile and well watered, and the climate is one of the most delightful in the world. The minerals are important and varied, including gold, silver, iron, and diamonds.

75. The diamond mines in the beds of the rivers of Brazil are the richest in the world. In 1847 a diamond was found worth nearly \$200,000. These mines yield a large revenue to the Government, and persons employed in them are closely watched.

76. The staple **products** are sugar and coffee. Cotton, rice, manioc, tobacco, corn, bananas, ginger, lemons, and oranges are also extensively cultivated.

Brazil yields more than half the coffee produced in the world. Large quantities sold as Java and Mocha coffee come from this country.

Manioc is an important food plant. One acre of manioc is said to yield as much nourishment as six acres of wheat.

77. A comparatively small portion of Brazil is under cultivation. The whole interior is covered with vast forests remarkable for luxuriance and variety. Here are found huge trees from eight to twelve feet in diameter, tall and graceful palms, bamboos, and myrtles; also, Brazil wood, fustic, rosewood, and mahogany. (See 32.)

78. Nearly all the wild animals of the continent are found in Brazil. Immense herds of cattle and horses feed on the plains, many of which are in a wild state.

79. The white inhabitants, forming about a third of the population, are principally of Portuguese origin. They are generally indolent, and look upon manual labour as degrading. In the cities a great deal of time is spent in street processions. Many of the negroes and mixed races are in a state of slavery. The slaves are allowed to purchase their freedom, and the foreign slave trade is prohibited. There are public schools in the towns. Most of the inhabitants are Roman Catholics.

Towns.—80. *Rio Janeiro* (296,000), the capital, has one of the best harbours in the world, and is the largest and most commercial city in South America. *Bahia* (120,000) has a beautiful situation on All Saints' Bay. It has a fine harbour and an extensive commerce. *Per-nambuco*, *Maranhao*, and *Para* are important towns. *Petropolis*, having a beautiful inland situation, is the summer residence of the emperor.

81. The chief **pursuits** are agriculture, grazing, and mining. Nearly all the labour is performed by the negroes. Manufactures are almost wholly neglected.

The chief **exports** are coffee, sugar, cotton, tobacco, rice, India-rubber, Peruvian bark, cabinet and dye woods, hides and diamonds. Total value, \$65,000,000. The **imports** include almost all kinds of manufactures, flour, wine, &c. Total value, \$61,500,000.

82. The **government** is a hereditary constitutional monarchy. The Legislature consists of two Houses, both elective.

The political importance of Brazil is not commensurate with its size and population. The present Emperor of Brazil is represented as an intelligent and humane sovereign, anxious to improve the condition of his empire. (*See Agassiz's Journey in Brazil.*)

PERU.

83. Peru, the seat of the ancient empire of the Incas, was the largest, most powerful, and most civilized State in the New World at the time of its discovery. The inhabitants worshipped the Sun as the supreme deity; and the Inca, or emperor, claimed to be his offspring. The empire was conquered by Pizarro, and the reigning monarch treacherously put to death.

Peru gained its independence from Spain in 1824. The country has since been much distracted by opposing factions and insurrections.

84. The coast of Peru is about 1950 miles in length. The region between the Pacific and the Andes is for the most part rainless and barren. The river valleys which cross it are the only parts capable of cultivation. These valleys and the table-land between the mountain ranges form the chief seat of the population. East of the Andes are immense forest plains. (*See 26, 27.*)

85. The **minerals** of Peru are very important, including gold, silver, quicksilver, copper, lead, and iron.

The mines are very inefficiently worked. They are generally in mountain districts to which it is impossible to convey machinery.

86. The **vegetable** products are sugar, cotton, tobacco, and various fruits. The cinchona, common on the eastern slopes of the Andes, is one of the most important forest trees.

87. The **animals** include the llama, which is used by the Indians as a beast of burden; and the alpaca. But few cattle are reared. Sheep are numerous.

88. The inhabitants are about half Indians and one-fourth whites. The negroes are chiefly confined to the coast.

Towns.—89. *Lima* (100,000), about seven miles from the Pacific, was founded by Pizarro, whose remains are deposited in its cathedral. Its university, the oldest in America, has a library of 20,000 volumes. The houses are low on account of earthquakes. *Callao*, the sea-port of Lima, and connected with it by railway, is a fortified town, and has an important roadstead. In 1746, Callao was entirely destroyed by an earthquake. The sea retired to a great distance, and then suddenly returned, overwhelming the town. Of about 3000 inhabitants, only sixteen escaped. *Cuzco*, in the interior, was the capital of the Incas, and contained a magnificent temple of the Sun. *Arequipa* and *Pasco* are in the interior.

90. The want of roads prevents the development of internal commerce. Goods are conveyed chiefly on the backs of mules. Many of the passes in the Andes are very narrow, steep, and dangerous.

The **exports** are gold, silver, Peruvian bark, cotton, alpaca and sheep's wool, and guano. Guano is obtained chiefly from the Chinoha Islands.

BOLIVIA.

91. Bolivia took its name from Bolivar, the liberator of South America from Spanish power. It was formerly called Upper Peru. It formed a part of the empire of the Incas.

92. The **surface** and other physical features are greatly diversified. The country between the Pacific and the Andes is wild and desolate. The mountains are very high, the western range presenting an almost impassable barrier between the coast region and the plateau. The table-land here attains its greatest breadth, and is the chief seat of the population. It contains Lake Titicaca.

93. The **products** are similar to those of Peru. The silver mines were formerly the most productive in the world. They are now mostly abandoned for want of proper machinery to work them.

Towns.—94. *Chuquisaca*, or Sucre (40,000), is on an elevation of 9,300 feet. It contains a magnificent cathedral. *Potosi* was formerly noted for its silver mines. *La Paz* (43,000) is in the neighbourhood of lofty volcanoes.

95. Agriculture, though greatly neglected, is the principal occupation. The foreign trade is of little importance. There are no roads or wheeled vehicles, and the cost of transporting the products to the coast exceeds their value.

CHILI.

96. Chili formed a part of the empire of the Incas. The Spaniards experienced great difficulty in subduing the warlike natives of the south.

Chili became independent in 1817. It is one of the most prosperous of the South American States.

97. Chili lies wholly on the west side of the Andes. It extends 1150 miles along the Pacific, and has a breadth varying from 90 to 130 miles. A large part of the country consists of mountain ridges, separated by deep valleys.

98. *Aconcagua*, the highest mountain in America, is in Chili. There are several passes across the Andes, some of which are very dangerous, winding along ledges so narrow that two mules cannot go abreast.

Chili is noted for earthquakes. One of great violence occurred in 1822, when an extent of coast fifty miles in length was elevated three feet above its former level.

99. The **soil** is generally very fertile, except towards the north, where rain is almost unknown. The climate is temperate and very salubrious. (*See 26, 27.*)

The **minerals** are silver, copper, and iron.

The **vegetable** products are maize, wheat, barley, hemp, and potatoes. Chili is supposed to be the native region of the potato.

100. The **inhabitants**, mostly Spanish and Indian, are more energetic and enterprising than those of most other countries of South America.

Towns.—101. *Santiago* (80,000), the capital and largest city, is situated in a fertile plain at the foot of the Andes. It contains a university, a military academy, a normal school, and a public library of 21,000 volumes. *Valparaíso*—"Vale of Paradise"—(72,000) is the chief port, and nearly all the trade of the country passes through it. *Concepción* and *Copiapo* are important towns.

102. The chief pursuits are mining and agriculture.

The exports are copper, silver, wheat, hemp, hides, wool, and guano. Nearly all kinds of manufactured goods are imported.

103. The government is republican. The President is elected for the term of five years. The Legislature is composed of two Houses.

THE ARGENTINE REPUBLIC.

104. The Argentine Republic, or La Plata, became independent of Spain in 1816. It takes its name from the La Plata, or *Silver River*. Buenos Ayres seceded and formed a separate State from 1853 to 1860.

105. The surface generally consists of immense plains, called *pampas*, which produce tall grass and gigantic thistles. Large tracts of country are so impregnated with salt as to be quite barren. An extensive desert in the north is called the *Gran Chaco*.

There is very little rain throughout a large part of the interior. The rivers are the La Plata and its tributaries. Salt lakes are numerous.

106. The products include maize, wheat, tobacco, sugar, and maté. Agriculture is greatly neglected. The chief wealth of the country consists in the vast herds of cattle and horses which roam over the plains. It is computed that there are 4,000,000 of cattle in the province of Buenos Ayres alone.

107. The inhabitants consist of Indians, Spaniards, and mixed races. The Spaniards are the ruling race. The inhabitants of the pampas are called *Gauchos*. They spend most of their time on horseback, galloping over the plains after the wild cattle and horses. Beef is their chief food.

Towns.—108. *Buenos Ayres*—"good air"—(120,000), the capital and largest city, is situated on the La Plata, 150 miles from the sea. The river is here over 30 miles broad. It is very shallow near the shore, and navigation is rendered dangerous by violent west winds, called *patameros*. *Parana* was the capital during the independence of the province of Buenos Ayres. *Mendoza* has important trade with Chili, carried on through mountain passes. *Corrientes* and *San Juan* are important towns.

109. The exports are hides, horns, tallow, and jerked beef.

PARAGUAY.

110. Paraguay formed part of the Spanish vice-royalty of Buenos Ayres. On gaining its independence it refused to join the Argentine Confederation.

From 1814 to 1840 Paraguay was ruled by Dr. Francia, a native Creole. Under his government all foreigners were excluded. This absurd policy is now abandoned.

111. Paraguay is wholly inland, between the rivers Parana and Paraguay. It is hilly in the north-east, level and marshy in the south.

112. The climate is warm temperate, and is noted for salubrity. The soil is very fertile. The forests yield rose-wood, dye-woods, gums, and fruits. Maté, or Paraguay tea, grows in great abundance. It is extensively used in South America, as China tea is with us.

113. The inhabitants are chiefly of Spanish origin. Owing to the efforts of Dr. Francia in establishing schools in all parts of the country, the people are more intelligent than those of most of the neighbouring States.

Towns.—114. *Asunción* (25,000), the capital, is situated at the confluence of the Pilcomayo and Paraguay. It has considerable trade.

The exports consist of maté, sugar, cotton, tobacco, rice, honey, cattle, and hides.

URUGUAY.

115. Uruguay, on becoming free from Spanish power, was seized by Brazil. It became independent in 1828.

This State formed the eastern portion of the Spanish possessions, and hence was called *Banda Oriental*, or the *Eastern Bound*.

116. Much of the interior is hilly. There are also extensive plains, sustaining large numbers of cattle and horses, which constitute the chief wealth of the country.

Maize and wheat are cultivated, but agriculture is in a backward state.

Towns.—117. *Monte Video* (45,000), the capital, is near the mouth of the La Plata, and has considerable trade. The exports are hides, horns, tallow, beef, and maté.

PATAGONIA.

118. Patagonia was discovered and named by Magellan.

Patagon means "large foot." The natives were accustomed to wrap their feet in skins, which made them appear of an unnatural size.

119. Patagonia consists of barren plains and low rocky mountains. It is hot in summer, and very cold in winter. There is but little rain on the east of the Andes.

The country is inhabited by independent Indian tribes of large stature. They are very expert horsemen.

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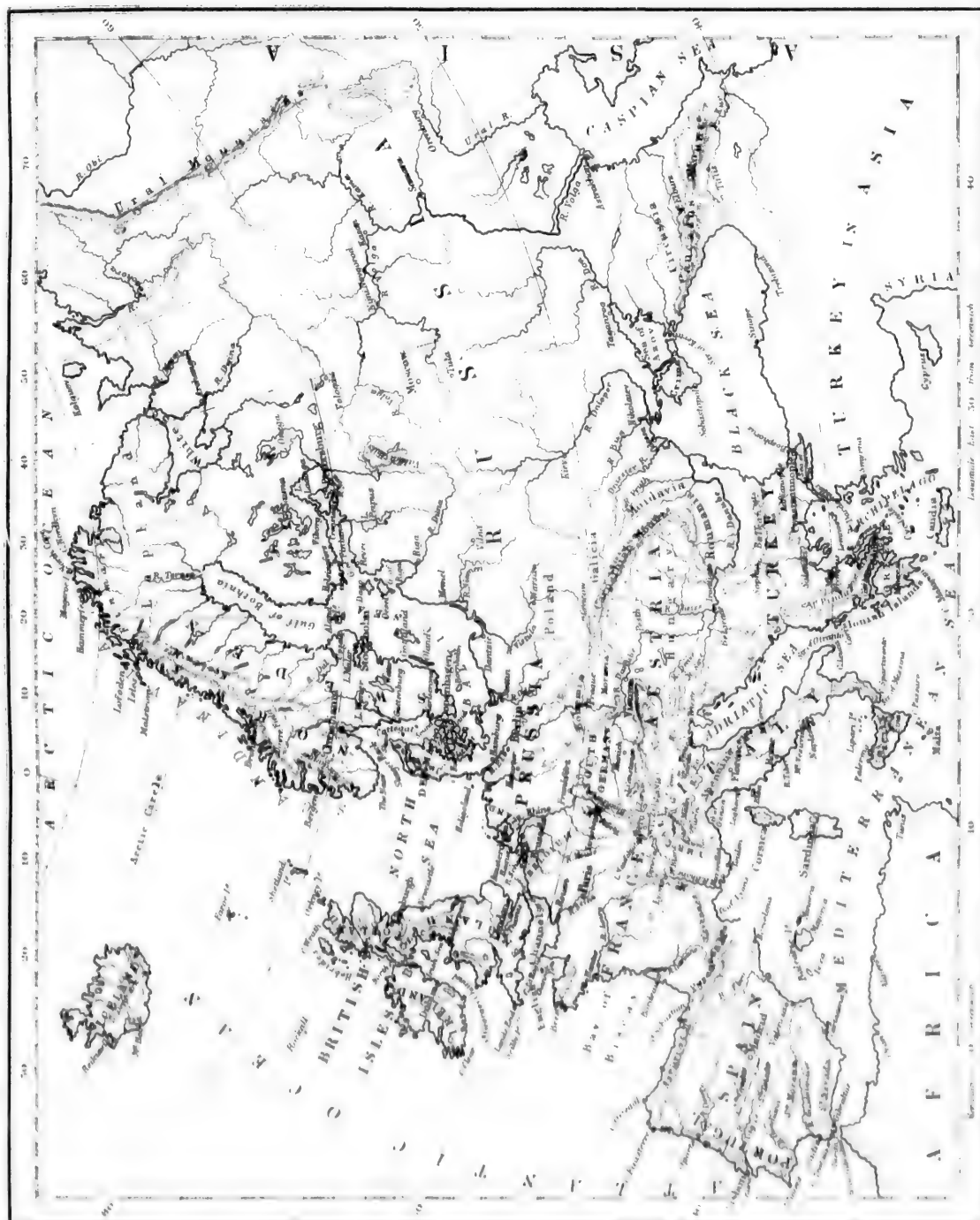
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EUROPE.



ETNA.

I. History.—1. With the exception of Australia, Europe is the smallest of the great divisions, and has generally less grandeur in its physical features, as mountains, rivers, and lakes. It ranks first in civilization, influence, and power.

The poets derive the name from Europa, the daughter of a Phœnician king. Some trace it to an eastern word signifying *sunset*, or the *west*. Others derive it from two Greek words signifying *wide view*, applied first to the country north of Greece, in contrast with the narrow limits of the peninsula.

2. Europe was settled at a very early period by people from Asia, who continued long in a savage state, whilst civilized and powerful nations flourished in Western Asia and Northern Africa. The peninsula of Greece, emerging first from barbarism, at length, about 400 years before the Christian era, outstripped all other parts of the world in civilization, literature, and power.

3. The central peninsula, or Italy, next obtained the pre-eminence, and gave laws to the world. Rome, a small State founded 753 B.C., extended its power gradually, until at the Christian era it embraced within its empire Southern and Central Europe, Western Asia, and Northern Africa.

4. Northern Europe was still occupied by barbarous hordes, who at different times had threatened the Roman Empire with destruction. Finally, 476 A.D., when the citizens of this once powerful empire were enfeebled by luxury and vice, the northern barbarians rushed in, took possession of the capital, and occupied the various provinces. Throughout Europe all was now in a state of unrest and anarchy. Civilization and learning were well-nigh extinguished, and the darkness of the Middle Ages ensued.

5. The Mohammedans entered Europe by the Strait of Gibraltar in 711. Having seized nearly all the south-western peninsula, they crossed the Pyrenees, and marched northwards, bidding fair to over-

run the whole continent. When near the middle of France, they were defeated and driven back by Charles Martel, 732 A.D.

6. Then (779-814) arose in the west a great conqueror, Charlemagne, who brought under his power France, Germany, and Italy. On his death his empire fell to pieces. During the next two centuries, the principal nations of Modern Europe were organized by the blending together of numerous petty States.

7. The twelfth and thirteenth centuries were remarkable for those expeditions called the Crusades, sent from Western Europe to take Palestine from the Mohammedans.

8. The close of the fifteenth and beginning of the sixteenth centuries witnessed several events which largely influenced the political and social condition of Europe. Among these may be mentioned the invention of printing, the discovery of America, the discovery of the passage around the Cape of Good Hope, the Reformation, the overthrow of the Byzantine Empire by the Turks, and the study of Grecian literature.

9. The most noted disturbing influences which have affected the general condition of Europe in recent times were the wars of Napoleon, at the commencement of the present century.

II. Position.—10. Europe is principally in the North Temperate Zone. It occupies the north-western part of the Old World, forming a large peninsula of the eastern continent.

It is bounded on the north by the Arctic Ocean; on the east by Asia; on the south by Asia, the Black Sea, and Mediterranean Sea; and on the west by the Atlantic Ocean.

11. The boundary line between Europe and Asia is formed by the Ural Mountains, Ural River, Caspian Sea, Caucasus Mountains, Black Sea, the Bosphorus, Sea of Marmora, and the Dardanelles.

Cape Nordkyn, in Norway, is the most northern point; Tarifa Point, near Gibraltar, the most southern; the mouth of the Kara, the most eastern; and Cape Roca, in Portugal, the most western.

N. lat. 36° — 71° $10'$; lon. 0° $32'$ W.— 68° E.

III. Form.—12. The main body of Europe is triangular, the angular points being the mouth of the Kara, the eastern extremity of the Caucasus, and the south-west of France. To this must be added the peninsulas of Scandinavia and Jutland on the north-west; and the three peninsulas, Spain, Italy, and Greece, on the south;—altogether including one-third of the continent.

IV. Coast.—13. Europe is greatly broken by the sea, by which it has much more coast, in proportion to its size, than any other great division. This physical feature gives it more easy intercourse with other parts of the world, promoting its commerce and civilization.

The coast-line exceeds 20,000 miles. Excepting the interior of the north-east, no part is over 400 miles from the sea.

14. The principal **Coast Waters** are the *White Sea* and the *Sea of Kara*, on the north; the *Caspian Sea*, on the south-east; the *Sea of Azof*, *Kertch Strait*, the *Black Sea*, the *Bosphorus* or *Strait of Constantinople*, *Sea of Marmora*, the *Dardanelles*, the *Archipelago*, *Gulf of Lepanto*, *Strait of Otranto*, *Adriatic Sea*, *Strait of Messina*, *Gulf of Genoa*, *Gulf of Lyons*, and the *Strait of Gibraltar*, on the south;

the *Bay of Biscay*, the *English Channel*, *Strait of Dover*, *St. George's Channel*, *Irish Sea*, *North Channel*, *North Sea* or *German Ocean*, the *Skager Rack*, *Cattegat*, *Great Belt*, *Little Belt*, the *Sound*, the *Baltic Sea*, and the *Gulfs of Riga*, *Finland*, and *Bothnia*, on the west.

15. The Mediterranean Sea is saltier than the ocean, in consequence of the great evaporation from the surface. For the same reason it has a lower level than the Atlantic, and a current is constantly flowing in through the Strait of Gibraltar.

16. The Black Sea, receiving more water from the rivers than it loses by evaporation, is fresher than the ocean, and sends a current to the Mediterranean.

The Baltic is very shallow, not exceeding 1100 feet. It is fresher than the ocean, and sends a current to the North Sea.

17. The most important **Capes** are *Nordkyn*, in Finmark; *Cape North*, on the island of *Mageroe*; the *Vaze*, south of Norway; the *Skaw*, north of Jutland; *Cape Wrath*, on the north of Scotland; *Cape Clear*, south of Ireland; *Land's End*, south-west of England; *La Hogue*, north-west of France; *Finisterre*, in Spain; *Roca* and *St. Vincent*, in Portugal; *Tarifa Point*, on the south of Spain; *Passaro*, in Sicily; *Spartivento* and *Leuca*, in Italy; and *Matapan*, in Greece.

18. The chief **Islands** on the coast are:—

In the Arctic Ocean—the *Lofoden*, belonging to Norway and Sweden; *Spitzbergen* and *Nova Zembla*, to Russia; and *Iceland*, to Denmark:

In the Atlantic Ocean—the *Faroe*, belonging to Denmark; the *British Isles*, forming an independent kingdom; and the *Azores*, belonging to Portugal:

In the Baltic—*Fäven*, *Seeland*, *Landland*, and *Bornholm*, belonging to Denmark; *Oland* and *Gottland*, to Sweden; and *Oesel*, *Dago*, and the *Aland Archipelago*, to Russia:

In the Mediterranean—the *Balearic Isles*, belonging to Spain; *Sicily*, *Sardinia*, *Elba*, and the *Lipari Isles*, to Italy; *Corsica*, to France; *Malta*, to Great Britain; the *Ionian Isles*, *Negropont* or *Euboea*, and the *Cyclades*, to Greece; *Candia* or *Crete*, *Samothrake*, and *Lemnos* or *Stalimni*, to Turkey.

19. The Maltese group embraces *Malta*, *Comino*, and *Gozo*; of which Malta, equal to a square of ten miles, is the largest. They were taken from France by Great Britain, in 1800. The surface is rocky, and the soil thin. The heat of summer is intense, and snow is unknown in winter. The products are cotton, grapes, olives, figs, oranges, and honey.

The inhabitants, numbering 140,000, are mostly Roman Catholics. *Valletta* is the capital.

20. *Helligoland* (*holy land*) was formerly regarded as sacred to the goddess Hertha. It has belonged to Great Britain since 1807. The island consists of a rock three or four miles in circumference, forty-six miles from the mouth of the Elbe. There are between 2000 and 3000 inhabitants. The chief pursuit is fishing.

For a description of other islands, see the countries to which they belong.

21. The **Peninsulas** of Europe are the *Crimea*, the *Hellenic* or *Grecian Peninsula* (the southern part of which is called the *Morea*), *Italy*, the *Berian* or *Spanish Peninsula*, *Jutland*, and *Scandinavia*.

EXERCISE.—Trace the coast-line of Europe, marking the coast waters, capes, and islands.

V. Area.—22. Europe contains about one-fourteenth of the land surface of the Earth. It is about one-sixth larger than British America.

The area equals a square of 1950 miles. The extreme length, from south-west to north-east, is 3400 miles.

VI. Surface.—23. The main body of Europe comprises two general slopes, a north-westerly and a southerly, as indicated by the courses of the rivers. The continent may be divided into a lowland region in the north-east, and a highland region in the west and south-west.

Without including the highlands of Scandinavia, the elevated portion lies generally south-west of a line drawn from the mouth of the Danube to that of the Elbe.

24. Low Europe, embracing two-thirds of the whole area, is an immense plain, bounded on the north by the Arctic Ocean; on the east by the Ural Mountains and Caspian Sea; on the south by the Caucasus Mountains, the Black Sea, and the Carpathian Mountains; and on the west by the North Sea and the Scandinavian Mountains. Throughout this whole extent, the Valdai Hills, which rise by a gentle swell to the height of 1100 feet, forming the parting ground between the two slopes, are the greatest elevations.

25. The Scandinavian Mountains, in the north-eastern peninsula, form a wall along the Atlantic coast from Cape Norikyn to the Naze. The middle portion of this range is called the *Dorrefield*; the northern, the Kiölen Mountains. The system is much broken by deep and almost inaccessible ravines. The extreme height is 8670 feet; and the height of the snow-line, about 5000 feet.

26. The Ural Mountains extend from the Arctic Ocean southerly about 1300 miles. The average height is about 2000 feet; the extreme height, 5400 feet. The range separates the great plains of Europe and Asia.

27. The Caucasus Mountains stretch from the Caspian to the Black Sea, about 700 miles. The average height is about 8500 feet. Elburz, 18,490 feet, is the highest peak. The snow-line has an elevation of 11,000 feet.

28. The south-west of Europe is very mountainous. The Alpine system is the most important. It comprises the *Alps*, stretching in a curve line from the Gulf of Genoa to Vienna, 600 miles; the *Carpathian Mountains*, forming another curve on the north of the Danube; the *Apennines*, in Italy; the *Balkan*, extending south-easterly from the Adriatic to the Black Sea; and the *Pindus*, in Greece. The *Vosges* and *Cevennes*, on the west of the Rhine and the Rhone; and the *Black Forest Mountains*, on the east of the Rhine, may also be included in the same system.

29. The Alps are the grandest mountains of Europe; and, excluding the border Caucasus, contain the highest point. They are very

wild and broken, and are celebrated for the beauty and sublimity of their scenery. Many of their summits are covered with snow throughout the year. The Alps are especially distinguished for the vast masses of ice called *glaciers* which are found in the high valleys.

30. The glaciers present a very interesting study. They are formed by the melting and compacting of masses of snow. Some of them are 15 miles in length, with a breadth from 1 to 2 miles, and are supposed to be several hundred feet in depth. The great pressure from above causes them to move slowly down their bed, until they reach the warmer lowlands, where they are changed to streams of water. The Rhone, Rhine, and other rivers, have their origin in the glaciers. There are often crevasses or deep fissures in the glaciers, which, when concealed by light snow, are very dangerous to tourists. The *Mer de Glace* is one of the most noted glaciers.

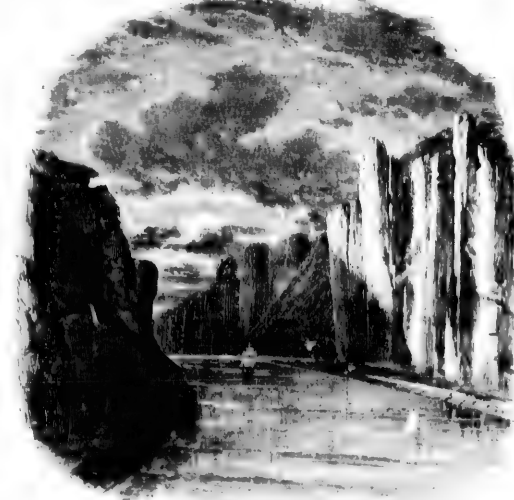
(See Tyndall's *Glaciers of the Alps*.)

31. The Alps take various names. From the Gulf of Genoa to Mount Viso, about 100 miles, they are called the Maritime Alps; thence to Mount Cenis are the Cottian Alps; then follow in order the Graian or Grecian Alps, the Pennine Alps, the Helvetian Alps, the Rhetian Alps, and the Noric Alps which terminate near the Danube. The Carnic, Julian, and Dinaric Alps extend along the north-east of the Adriatic Sea.

32. There are several passes over the Helvetian and Rhetian Alps. The *Stelvio Pass*, across the latter, having an elevation of 9174 feet, is the highest carriage road. The *Col de Geant* and *Cervin*, both in the Pennine Alps, and over 11,000 feet high, are the highest routes for foot passengers. The most frequented carriage road between France and Italy is across *Mount Cenis*. A railway tunnel is now being constructed through this mountain.

Mont Blanc, 15,744 feet, is the highest point of the Alps.

33. The Carpathian Mountains have an average elevation of 5000 or 6000 feet. The highest peak (9528 feet) is in Transylvania.



IRON GATE OF DANUBE

The Balkan or Hemus Mountains, in Turkey, are generally clothed with forests to their summits. Their greatest height is 8874 feet. They throw off various subordinate ranges, one of which, on the north, terminates abruptly at the Danube, opposite the southern extremity of the Carpathians. The narrow defile, through which the river flows, is called the *Iron Gate*.

34. The mountains of the Hellenic peninsula are not generally very elevated. The snow-line is about 9000 feet. *Olympus*, the fabled

abode of the ancient Grecian gods, has an elevation of 9754 feet. Further south are the bold peaks of *Ossa* and *Pelion*. Between Olympus and Ossa is the beautiful and celebrated *Val of Tempe*.

35. The Apennines extend from the Maritime Alp. throughout the whole of the Italian peninsula. Towards the south they divide into two ranges; one of which terminates at Cape Leuca, the other continues to the Strait of Messina. With a slight interruption at the strait, this range is continued through the Island of Sicily.

The average height is from 3000 to 5000 feet. Near the middle of the range are several peaks from 7000 to 8000 feet high. *Monte Corno*, 9500 feet, is the highest summit.

36. *Mount Etna*, in Sicily, one of the most celebrated volcanoes in the world, has an elevation of 10,874 feet. (See p. 81.)

Vesuvius, a detached peak near Naples, is the only active volcano on the continent of Europe. Its height is only 3950 feet.

37. The Spanish peninsula consists mainly of an elevated plateau, with several mountain ranges extending east and west. The principal ranges are the *Pyrenees*—which are continued along the south of the Bay of Biscay under the name of the *Asturias*—the *Sierra Gredos*, the *Sierra Toledo*, the *Sierra Morena*, and the *Sierra Nevada*.

38. The Pyrenees, between France and Spain, have an extreme elevation of 11,168 feet; the *Sierra Gredos*, of 10,550 feet; and the *Sierra Nevada*, of 11,660 feet. The snow-line in the Pyrenees has an elevation of 8000 feet.

EXERCISE.—Lay down the mountains on the map of Europe.

VII. Rivers.—39. The rivers of Europe drain less extensive basins, and hence are on a smaller scale, than those of the other continents. The *Volga*, 2400 miles in length, and draining one-seventh of Europe, is the largest river. The *Danube*, the second in size, is about three-fourths as long. Smaller streams are very numerous, affording the benefits of navigation to a large part of the interior.

40. In the following tables are the principal rivers, arranged according to the general slopes of the continent. The pupil can learn their position, source, and the waters into which they flow, from the map:—

RIVERS OF THE NORTH-WEST SLOPE.

Name.	Length in English miles.	Name.	Length in English miles.
Petchora	900	Meuse	550
Dwina	790	Elbe	225
Neva	40	Seine	430
Duna	500	Loire	550
Niemen	400	Garonne	350
Vistula	620	Douro	450
Oder	550	Tagus	525
Elbe	670	Guadiana	400
Weser	350	Guadalquivir	300
Rhine	750		

RIVERS OF THE SOUTH-EAST SLOPE.

Name.	Length in English miles.	Name.	Length in English miles.
Elbro	420	Bug	540
Rhone	400	Dnieper	1200
Tiber	185	Don	1100
Po	450	Volga	2400
Danube	1750	Ural	1040
Dniester	700		

VIII. Lakes.—41. Small lakes are numerous, especially in the north. *Ladoga*, east of the Gulf of Finland, considerably smaller than Lake Ontario, is the largest lake in Europe.

The other principal lakes of the north are *Wener*, *Wetter*, and *Mälär*, in Sweden; *Onega*, *Saima*, and *Peipus*, in Russia.

42. The Alpine lakes are smaller than those of the north; but their beauty is the admiration of tourists and the theme of the poet's song.

On the Swiss side of the Alps are *Geneva*, *Constance*, *Zurich*, *Lucerne*, and *Neufchâtel*; on the Italian side, *Maggiore*, *Como*, and *Garda*.

43. Geneva, or Lake Leman, in the basin of the Rhone, is 45 miles long, 6 miles in extreme breadth, and is 1200 feet above the sea. Constance, in the basin of the Rhine, is about the same length, but has a greater average breadth. The rivers are remarkably clear on leaving these lakes.

EXERCISE.—Lay down the rivers and lakes on the map of Europe.

IX. Soil.—44. There are no extensive deserts in Europe. The soil is generally fertile and carefully tilled. The frozen regions in the extreme north are unfit for cultivation. There are also barren salt tracts in the neighbourhood of the Caspian Sea.

X. Climate.—45. Europe has a milder climate than any other part of the world at the same distance from the Equator.

In consequence of a maritime situation, the influence of the Gulf Stream, and the prevalence of south-westerly winds, the western side of the continent has a more equable temperature than the interior. Hot winds from the deserts of Africa often render the heat very oppressive in the southern peninsulas, particularly in Italy; whilst a northerly aspect and winds from the Arctic Ocean, cause severe cold in the north. (See *Physical Geography*, 69, 71, 94, 97.)

46. The humid south-westerly winds give much more rain on the Atlantic coast than in the interior. The quantity of rain also decreases towards the north.

In the southern countries the rain falls most abundantly in winter; in the central countries, in autumn; and in the northern, in summer.

On the coast of Portugal the annual depth of rain is 111 inches; on the west of Ireland, 47 inches; and in Eastern Europe, only 15 inches.

XI. Minerals.—47. The precious metals are less plentiful than in the other great divisions; but all the most useful minerals are abundant.

The richest gold and silver mines are in the Carpathian Mountains. Gold, diamonds, and platinum are obtained from the Ural Mountains. Iron is widely distributed, and is very plentiful in Britain, Scandinavia, and France. Coal is most abundant in Britain and Belgium; copper in Britain, the Ural Mountains, and Norway; lead in England and Spain; tin in England; quicksilver in Spain; marble in Italy and Greece; sulphur in Italy; and salt in Russia.

XII. Plants.—48. The vegetation of the southern peninsula is sub-tropical, including palms, evergreen oaks, mulberries, olives, figs, pomegranates, oranges, lemons, and vines.

The extreme north-east, within the Arctic Circle, is destitute of trees, and its vegetation consists principally of mosses and lichens.

49. The countries between these extremes yield almost every variety of products belonging to the Temperate Zone.

Between the Baltic and the Ural Mountains are immense forests, in which pines and other cone-bearing trees predominate. Extensive treeless plains or steppes are found on the north of the Black and Caspian Seas.

50. In the south of the main body of Europe the plains and low valleys are clothed with vineyards, grain fields, orchards of peaches, prunes, and pears, and groves of chestnut, walnut, and mulberry trees.

As we ascend the mountain slopes, we pass from forests of oak and beech, and the wheat fields, to the spruces, pines, and hardier grains; thence to the shrubs, alpine flowers, and eternal snows. (See *Physical Geography*, 110-115.)

51. The south of France and north of Italy are in the same latitude as Nova Scotia. Vines, olives, and silk are staple products of those countries. Rice is cultivated in the valley of the Po. Wheat is cultivated as far north as the middle of Norway and the Valdai Hills; barley, as far as the White Sea, and considerably further north in Scandinavia.

XIII. Animals.—52. Wild animals are not numerous or of large size

Fur-bearing animals and the reindeer are the most important in the northern regions. The forests of the central countries abound in bears, wolves, wild boars, and various kinds of deer.

53. The chamois is a beautiful animal inhabiting the high peaks of the Alps. It is noted for dexterity in leaping from crag to crag on the mountain heights. Large eagles are also found among the Alps.

Barbary apes are found in the south of Spain. The reptiles of Europe are small and generally harmless.

XIV. Inhabitants.—54. The population of Europe is estimated at 280,000,000. The most densely peopled countries are Belgium and England. The inhabitants are generally much more intelligent and more highly civilized than those of Asia and Africa.

55. The great majority of the inhabitants belong to the Caucasian race, and are divided into four great divisions:—the Teutonic, in the middle and north-west; the Celtic, in the west; the Slavonic, in the east; and the Greco-Latin in the south.

56. There are several small tribes of Mongolians, who resemble the inhabitants of Central Asia. The chief of these are the Finns, Lapps, and Samoides, near the Arctic Ocean; the Kalmucks, north of the Caucasus; the Magyars, in Hungary; and the Turks, in Turkey.

57. The Christian religion is embraced by nearly all those of Caucasian origin. It is divided into three great bodies;—the Protestant, generally in the centre and north-west; the Roman Catholic,

in the south; and the Greek Church, in the east and north. The Turks are Mohammedans.

Roman Catholics form nearly half the population; Protestants and Greeks nearly a fourth each. Mohammedans and heathens number about 8,000,000; Jews, about 2,000,000.

XV. Divisions.—58. Europe is very unequally divided into the following sixteen political divisions or sovereign States:—

Great Britain, Norway and Sweden, Denmark, Russia, Prussia, Austria, Germany, Holland, Belgium, France, Switzerland, Spain, Portugal, Italy, Turkey, and Greece.

59. Russia comprises nearly three-fifths of Europe. Russia, France, Austria, and Turkey are called empires; Switzerland is a republic; Germany a confederation of small States. All the other divisions are kingdoms.

60. Various States which formerly had an independent existence have been annexed to other States, or incorporated under one general government. Thus Poland, once an important kingdom in the centre of Europe, has been divided between Russia and Prussia; Hungary has been annexed to Austria; several of the German States have been annexed to Prussia; and the States of Italy have been united under one general government.

61. The following table gives the area, population, and capitals of the various divisions:—

Countries.	Area of square miles, which are equal to, in Eng. miles.	No. of times the size of Nova Scotia.	Population.	Capital.
BRITISH ISLES.....	350	6½	29,307,000	London.
NORWAY and SWEDEN.....	545	10	5,467,000	Christiania. { Stockholm { Copenhagen.
DENMARK.....	130	1	1,600,000	St. Petersburg.
RUSSIA.....	1450	114	65,732,000	Berlin.
PRUSSIA.....	375	7½	23,000,000	Vienna.
AUSTRIA.....	400	13	32,500,000	Amsterdam.
SOUTH GERMANY.....	182	2	7,844,000	Brussels.
HOLLAND.....	117	3	3,570,000	Paris.
BELGIUM.....	107	3	4,732,000	Bern.
FRANCE.....	462	11½	37,473,000	Madrid.
SWITZERLAND.....	125	3½	2,510,000	Lisbon.
SPAIN.....	425	9½	15,700,000	Florence.
PORTUGAL.....	188	1½	3,600,000	Constantinople.
ITALY.....	337	6½	25,900,000	Athens.
TURKEY.....	450	10½	15,500,000	
GREECE.....	142	1½	1,343,000	

* Not including the Duchies Schleswig, Holstein, and Lauenburg.

† Not including about 6,000,000 in North German States league with Prussia, but not fully incorporated.

XVI. Towns.—62. Europe contains many large and flourishing cities. London surpasses every other city in the world in wealth and commerce, and probably in population. Paris, ranking next in size among the cities of Europe, is the first in splendour.

Hammerfest (N. lat. 70° 40'), in Norway, is the most northerly town in the world.

EXERCISE ON THE GLOBE.—Find the length of the longest day at *Hammerfest*.

XVII. Industries.—63. The chief pursuits in Europe are agriculture, manufacturing, mining, fishing, and commerce.

Agriculture is prosecuted with greatest skill in Great Britain, France, Belgium, and Prussia; manufacturing, in Great Britain, France, Belgium, Prussia, and Switzerland; mining, in Great Britain, Austria, Germany, Spain, and Norway and Sweden. The most commercial countries are Great Britain, France, Holland, Prussia, and Greece. Great Britain has about one-third the commerce of the whole world.

XVIII. Government.—64. The governments of Europe

are generally hereditary monarchies. The power of the sovereign is more or less limited, either by representative parliaments or by public opinion. The absolute monarchies are therefore less despotic than the native governments of Asia and Africa.

65. Great Britain, France, Prussia, Russia, and Austria, called the *Five Great Powers*, are the leading States of Europe. The kingdom of Italy ranks next in importance.



LONDON.

THE BRITISH ISLES.

66. The British Isles consist of *Great Britain* and *Ireland*, with the numerous small islands adjacent.

It is said that the Phœnicians visited the British Islands many centuries before the Christian era, for the purpose of obtaining tin. Little, however, is known of their condition previous to 55 b.c., when Britain was invaded by the Romans under Julius Cæsar. At that early time the country was covered with forests, and the inhabitants were barbarous Celtic tribes, who lived principally by hunting and fishing, clothed themselves in skins, and stained their bodies with the juice of herbs. (*See Collier's British History—Introduction.*)

67. The British Isles are in the northern part of the North Temperate Zone, and nearly in the centre of the land hemisphere. (*See Physical Geography, 9.*) The Atlantic Ocean lies on the north and west; the continent of Europe on the

east and south, separated by the North Sea, the Strait of Dover, and the English Channel.

Ireland is separated from Great Britain by St. George's Channel, the Irish Sea, and the North Channel.

The Strait of Dover, at the narrowest part, is 21 miles across.

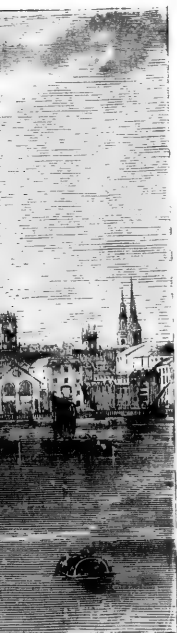
68. The islands have many excellent harbours, and are most favourably situated for commerce.

The western shores are washed by the Gulf Stream; the prevailing winds are from the south-west; and the climate is mild and humid.

69. Great Britain is the largest European island, and it ranks as the eighth in size among the islands of the world. It comprises two-thirds the entire area of the British Islands, or equals a square of 296 miles.

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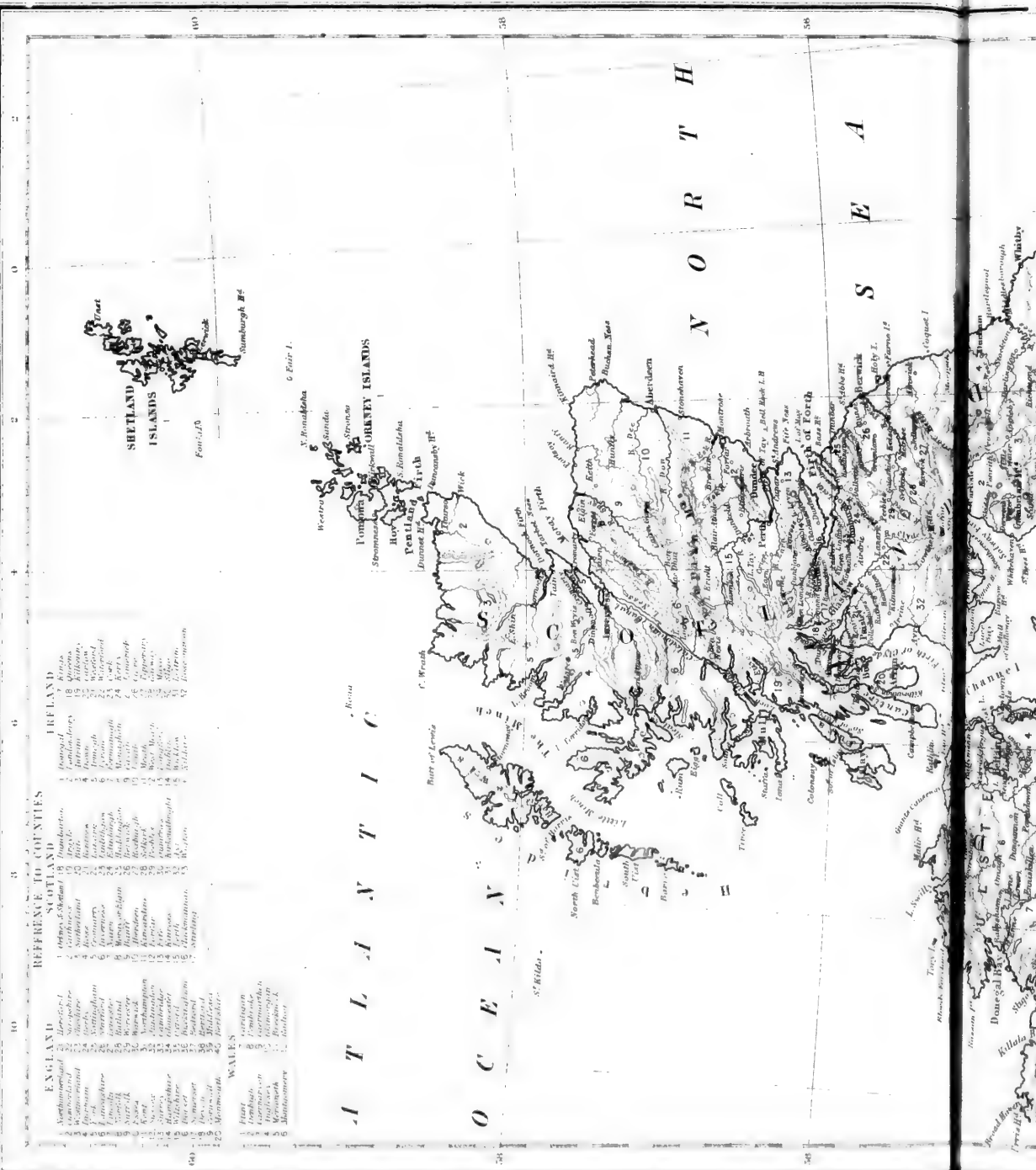
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BRITISH ISLANDS





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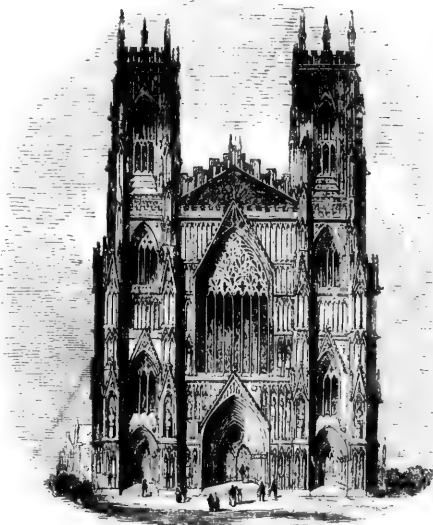
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70. Great Britain includes three countries ;—*England*, in the south ; *Wales*, in the west ; and *Scotland*, in the north.

Scotland is separated from England by the Solway Firth, the Cheviot Hills, and the River Tweed.

The island is about 608 miles in length, and 317 miles in extreme breadth.

ENGLAND AND WALES.



YORK MINSTER.

I. **History.**—71. Britain was a Roman province for nearly four centuries. Early in the fifth century Rome, now enfeebled and hastening to its downfall, abandoned the island.

72. During the unsettled period which followed the breaking up of the Roman Empire, three German tribes, the Angles, Saxons, and Jutes, crossed over from the continent on different occasions, and established seven small kingdoms in Britain. These kingdoms are known in history as the *Saxon Heptarchy*.

The Britons were dispossessed by the Saxons. Some of them retired to the mountains of Wales, others emigrated to Brittany in France.

73. The kingdoms of the Heptarchy were constantly at war with each other, and encroaching on each other's bounds. Finally, in 827, Egbert became the supreme monarch. About the same time the country was called *England* or *Angles-land*.

74. England was again invaded and subjugated by foreigners in the year 1066. The Normans from France, who were now the conquerors, did not expel the Anglo-

Saxons, but settled amongst them. For a few generations the Normans were lords of the land, and the Anglo-Saxons were serfs ; then the two races were gradually blended, and all trace of distinction was obliterated.

75. Since the Norman Conquest, England has frequently been laid waste by civil wars, but it has never been conquered by a foreign army.

Wales, occupied by the Britons, remained an independent State until 1283, when it was conquered by Edward I. and annexed to England.

76. The Tudor Period of English history (1485–1603) is noted for the great religious movement called the Reformation. The Stuart Period (1603–1714), which followed, was characterized by struggles between the Kings and Parliaments. In these struggles originated the British Constitution, which more fully than any other secures dignity to the Sovereign and liberty to the People.

77. The Guelph Period, from 1714 to the present time, is noted for colonial extension. Most of the colonies now connected with the Empire were acquired during this period.

II. **Position.**—78. England is between the same parallels as the south of Labrador.

N. lat., $49^{\circ} 53'$ — $55^{\circ} 45'$; lon., $1^{\circ} 45'$ E.— $5^{\circ} 44'$ W.

III. **Form.**—79. England and Wales together present the rude outline of a triangle. The angular points are the mouth of the Tweed, South Foreland, and Land's End.

The north-east side measures 345 miles; the south side, 317; and the north-west, 425.

EXERCISE.—Draw the approximate form of England and Wales, on the scale of 50 miles to the inch.

IV. **Coast.**—80. The coast line is irregular, forming many bays and excellent harbours.

The total length of coast line is over 2000 miles.

81. The principal **Coast Waters** are—on the east, the *Mouth of the Humber*, the *Wash*, *Mouth of the Thames*, and the *Downs*; on the south, *Spithead*, *Solent*, *Tor Bay*, *Plymouth Sound*, *Falmouth Harbour*, and *Mount's Bay*; on the west, *Bristol Channel*, *Swansea Bay*, *Caernarthen Bay*, *Milford Haven*, *St. Bride's Bay*, *Cardigan Bay*, *Caernarvon Bay*, *Menai Strait*, *Mouths of the Dee*, *Mersey*, and *Ribble*, *Morecambe Bay*, and *Solway Firth*.

82. The chief **Capes** on the east are *Flamborough Head*, *Spurn Head*, *North Foreland*, and *South Foreland*; on the south, *Dungeness*, *Beachy Head*, the *Needles*, *Portland Point*, *Start Point*, *Lizard Point*, and *Land's End*; on the west, *Hartland Point*, *Worm's Head*, *St. David's Head*, *Brach y-Pwll* (south-west of Caernarvon), *Holy Head*, *Great Orme's Head*, and *St. Bee's Head*.

83. The principal **Islands** are *Holy Island*, *Farne*, *Coquet*, *Sheppey*, and *Thanet*, on the east; *Wight*, *Scilly Isles*, and *an*

the *Channel Isles*, on the south; *Lundy*, *Anglesey*, *Holy Head*, *Walney*, and *Isle of Man*, on the west.

84. Holy Island obtained its name from a monastery founded on it in the sixth century. (See *Collier's British History*, p. 22.)

Thanet is now joined to the mainland. (See *Collier's History*, p. 21.)

85. Wight is a beautiful island, separated from Hampshire by Spithead and Solent. Its extreme length is 23 miles, breadth 14. *New Port* is the chief town, near which are the ruins of Carisbrook Castle. (See *Collier's History*, p. 217.) *Osborne House*, a favourite residence of the Queen, is on the north coast.

86. The Scilly Isles consist of about 150 islets and rocks, 30 miles from Land's End. Six are inhabited. The largest is about 10 miles in circuit. Fishing and pilotage are the chief occupations.

87. The Channel Islands have been connected with England since the time of the Norman Conquest. The chief islands of the group are *Jersey*, *Guernsey*, *Alderney*, and *Sark*. Alderney is 7 miles from France and 55 from England. Jersey and Guernsey are each about 10 miles long and 6 miles broad. The islands are celebrated for fine fruit, particularly for pears. They are also noted for the Alderney breed of cattle. The population is 91,000. *St. Helier's*, on Jersey, and *St. Peter's Port*, on Guernsey, are the chief towns.

88. Anglesey (Angles' Island) was called Mona by the Romans. It is separated from the mainland by Menai Strait, which, in the narrowest part, is about one-third of a mile broad. The Strait is crossed by two bridges, a suspension bridge and a tubular iron bridge, for rail-cars. Anglesey is about 20 miles long and 17 in breadth. It contains interesting remains of the Druids. The copper mines have yielded immense wealth. Holy Head is joined to Anglesey by a bridge. It is the station of the steam packet to Dublin, 70 miles distant.

89. The Isle of Man is nearly equidistant from England, Scotland, and Ireland. It is 30 miles long, and about 10 in breadth. It yields lead, copper, and iron. The inhabitants, numbering about 50,000, are of the Celtic race, and are chiefly engaged in mining, fishing, and agriculture. *Douglas* (10,000), *Castletown*, and *Peel*, are the chief towns. The island has a local government.

V. Area.—90. England and Wales together are rather more than three times larger than Nova Scotia. Wales comprises about one-eighth of the whole area:

—equal to a square of 242 miles.

The length from the mouth of the Tweed to Lizard Point is 420 miles.

VI. Surface.—91. The surface is mountainous in the west, and level in the east. There are three general slopes, an eastern, a southern, and a western. The eastern is the longest. On the east, near the Wash, are extensive tracts below the level of the sea at high water. They are protected by dikes.

92. The mountains may be grouped as the *Northern Range*, the *Southern Range*, and the *Mountains of Wales*; all on the west side.

The Northern Range embraces the *Cheviot Hills*, between England and Scotland; the *Pennine Mountains*, extending from the south-west extremity of the Cheviot Hills to the Peak of Derby; and the *Cambrian Mountains*, a westerly branch of the Pennine.

The Southern Range is quite low, embracing the *Devonian*

Mountains, in Devon and Cornwall; the *Mendip*, *Cotswold*, and *Malvern Hills*, along the lower course of the Severn.

The *Cambrian Mountains* cover a large part of Wales, and take their name from the ancient name of the country.

93. The highest peak of the Cheviot Hills has an elevation of 2683 feet; *Bow Fell* and *Cross Fell*, in the Pennine Mountains, 2900 feet; *Scaw Fell*, in the Cumbrian, 3229 feet; and *Snowdon*, in the north-west of Wales, 3590 feet.

EXERCISE.—Mark the mountains on the map of England and Wales.

VII. Rivers.—94. England is well watered. Generally, the largest rivers are on the long eastern slope. The basins of the southern slope are very short.

The principal rivers on the east are the *Tyne*, *Tees*, *Humber* (with its tributaries, the *Ouse* and *Trent*), the *Welland*, *Nen*, *Great Ouse*, *Yare*, *Stour*, and *Thames*; on the south, the *Aron*; on the west, the *Severn*, *Wye*, *Usk*, *Dee*, *Mersey*, *Ribble*, and *Eden*.

The Humber, Thames, Great Ouse, and Severn, are the chief river basins. The Severn and Thames are each about 220 miles in length.

VIII. Lakes.—95. The lakes are not numerous or of large size. *Derwent Water* or *Keswick Lake*, *Windermere*, and *Ullswater*, situated in the Cumbrian Mountains, are the most important. They are very beautiful, and are a favourite resort of tourists.

Windermere, 10 miles in length and 1 mile in breadth, is the largest lake in England.

EXERCISE.—Lay down the rivers and lakes on the map of England and Wales.

IX. Soil.—96. The soil is generally fertile, and most carefully cultivated. The east and south-east are best suited to tillage. A large portion of the soil is devoted to grazing.

X.—Climate.—97. England is remarkably free from extremes of heat and cold. The winters are short, with but little snow. Cattle are sent to pasture early in March. The summers are not sufficiently warm to ripen Indian corn. The climate is very humid, particularly on the west coast.

On the west the average number of rainy days in the year is said to be 208, and the annual depth of rain 100 inches; whilst on the east the number of rainy days is 165, and the annual depth about 25 inches.

XI. Minerals.—98. England and Wales contain immense mineral wealth. The most important minerals are coal, iron, copper, tin, lead, zinc, and salt. They are obtained chiefly in the north and west.

The most important coal fields are in Northumberland, Durham, York, Stafford, and South Wales. About sixty millions of tons are raised annually.

Copper and tin are most abundant in Devon and Cornwall; lead in the northern counties, in Derby, North Wales, and Devon. Iron is very generally diffused.

XII. Plants.—99. The native trees include the oak, elm,

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wealthy as hunting grounds.

The humidity of the climate is particularly favourable to the grasses.
Wheat, barley, oats, potatoes, turnips, and flax, are important pro-
ducts. The fruits are apples, pears, plums, peaches, and walnuts.
The south-western counties are celebrated for fine orchards. Hops
are extensively cultivated in the south-east.

XIII. Animals.—100. The most important wild animals
are the deer, rabbit, and fox. Among the birds are the
nightingale and lark.

Cattle and sheep form a large part of the wealth of the country.
Great care is taken to improve the breeds.

XIV. Inhabitants.—101. The population of England and
Wales is 20,210,000. England alone has 372 inhabitants to
the square mile.

102. The people of England are chiefly descendants of the Anglo-
Saxons and Normans; those of Wales, of the ancient Britons. They
are generally well educated, except the lowest classes, who, particu-
larly in large cities, are very ignorant and degraded.

The most celebrated institutions of learning are the Universities of
Oxford and Cambridge. The former consists of 19 colleges, the latter
of 17.

103. The Episcopal religion is established by law, and its ministers
are paid by the State. The Sovereign and Lord Chancellor must be
Protestants. In other respects, all Christian denominations have the
same privileges.

XV. Divisions.—104. England is divided into forty
Counties; Wales into twelve

Most of the counties are subdivided into *Hundreds*—a name which
is supposed to refer to a hundred heads of families, originally included
in the division. York is divided into three *Ridings* (*Trithings*).

Ecclesiastically, the country is divided into two Archbishoprics—
Canterbury, containing twenty Bishoprics; and York, containing six
Bishoprics.

105. The following are the counties, with their chief towns:

SIX NORTHERN COUNTIES.

Counties.	Chief Towns.
NORTHUMBRIA	Newcastle, 100,000; Tynemouth, 34,000; Mor- peth, 14,000; Berwick, 13,000.
CUMBERLAND	Carlisle, 20,000; Whitehaven, 19,000.
WESTMORELAND	Appleby, 3000; Kendal, 12,000.
DURHAM	Durham, 14,000; Sunderland, 80,000; South Shields, 35,000; Gateshead, 34,000; Stock- ton, 10,000; Darlington, 11,000; Hartle- pool, 12,000.
YORK	York, 40,000; Hull, 99,000; Doncaster, 16,000; Sheffield, 185,000; Leeds, 207,000; Brad- ford, 106,000; Wakefield, 23,000; Hudders- field, 35,000; Halifax, 37,000; Scarborough, 18,000; Whitby, 12,000.
LANCASHIRE	Lancaster, 14,000; Preston, 83,000; Black- burn, 63,000; Burnley, 21,000; Wigan, 38,000; Liverpool, 444,000; Warrington, 25,000; Staley Bridge, 21,000; Ashton- under-Lyne, 35,000; Manchester, 338,000; Salford, 102,000; Bury, 38,000; Oldham, 72,000; Bolton, 70,000; Rochdale, 39,000.

FIVE EASTERN COUNTIES.

Counties.	Chief Towns.
LINCOLN	Lincoln, 21,000; Boston, 14,000; Louth, 11,000; Great Grimsby, 11,000.
NORFOLK	Norwich, 74,000; Yarmouth, 30,000; Lynn- Regis, 19,000.
SUFFOLK	Ipswich, 38,000; Bury St. Edmund's, 13,000; Lowestoft, 7000.
ESSEX	Chelmsford, 6000; Colchester, 24,000.
KENT	Maidstone, 23,000; Chatham, 36,000; Ro- chester, 17,000; Gravesend, 19,000; Wool- wich, 32,000; Greenwich, 139,000; Canter- bury, 21,000; Dover, 25,000.

EIGHT SOUTHERN COUNTIES.

SUSSEX	Chichester, 8000; Hastings, 23,000; Brighton, 78,000.
SURREY	Guildford, 8000; Richmond, 4000.
HAMPSHIRE	Winchester, 15,000; Southampton, 47,000; Portsmouth, 95,000; Newport, 8000.
WILTSHIRE	Salisbury, 12,000; Trowbridge, 10,000.
DORSET	Dorchester, 7000; Poole, 1,000; Weymouth, 11,000.
SOMERSET	Bath, 53,000; Bridgewater, 11,000; Taunton, 15,000.
DEVON	Exeter, 34,000; Plymouth, 63,000; Devon- port, 51,000; Torquay, 8000; Barnstaple, 11,000.
CORNWALL	St. Ives, 7000; Penzance, 9000; Falmouth, 6000; Truro, 11,000.

FOUR WESTERN COUNTIES.

MONMOUTH	Monmouth, 6000; Newport, 23,000.
HEREFORD	Hereford, 16,000.
SHROPSHIRE, or SALOP	Shrewsbury, 22,000; Much-Wenlock, 18,000.
CHESTER	Chester, 31,000; Birkenhead, 30,000; Stock- port, 55,000; Macclesfield, 36,000.

SEVENTEEN MIDLAND COUNTIES.

DERBY	Derby, 43,000; Belper, 10,000; Chesterfield, 10,000.
NOTTINGHAM	Nottingham, 75,000; Newark, 12,000.
STAFFORD	Stafford, 12,000; Newcastle-under-Lyne, 13,000; Stoke, 101,000; Walsall, 38,000; Lichfield, 7000; Wolverhampton, 61,000; Bilston, 24,000.
LEICESTER	Leicester, 68,000; Loughborough, 11,000.
RUTLAND	Oakham, 3000.
WORCESTER	Worcester, 31,000; Kidderminster, 15,000; Dudley, 45,000.
WARWICK	Warwick, 11,000; Leamington, 15,000; Cov- entry, 41,000; Birmingham, 296,000.
NORTHAMPTON	Northampton, 33,000; Peterborough, 12,000.
HUNTINGDON	Huntingdon, 4000; St. Ives, 7000.
CAMBRIDGE	Cambridge, 26,000; Ely, 6000.
GLOUCESTER	Gloucester, 16,000; Bristol, 154,000; Stroud, 36,000; Cheltenham, 40,000.
OXFORD	Oxford, 28,000; Eton, 1000; Woodstock, 8000.
BUCKINGHAM	Buckingham, 4000; Aylesbury, 27,000.
BEDFORD	Bedford, 13,000; Luton, 10,000.
HERTFORD, or HERTS.	Hertford, 7000; St. Alban's, 8000.
MIDDLESEX	London, 2,803,000; Brentford, 9000.
BERKSHIRE	Reading, 25,000; Windsor, 10,000.

TWELVE COUNTIES IN WALES.

Counties.	Chief Towns.
FLINT.....	Mold, 3000; Holywell, 6000.
DENBIGH.....	Denbigh, 6000; Wrexham, 7000.
CAERNARVON.....	Caernarvon, 9000; Bangor, 7000.
ANGLESEY.....	Beaumaris, 3000; Holyhead, 6000.
MERRIONETH.....	Dolgelly, 2000.
MONTGOMERY.....	Montgomery, 1000; Welshpool, 7000.
CARDIGAN.....	Cardigan, 4000.
PEMBROKE.....	Pembroke, 15,000; Haverfordwest, 7000.
CAERMARTHEN.....	Caermarthen, 10,000; Llanelli, 9000.
GLANMORGAN.....	Cardiff, 32,000; Swansea, 43,000; Merthyr-Tydvil, 84,000.
BRECKNOCK.....	Brecknock, 5000.
RADNOR.....	New Radnor, 2000.

EXERCISE.—Mark the county lines and the chief towns on the map of England and Wales.

XVI. Towns.—106. The cities and towns of England are very numerous, and many of them are very large. There are twelve which have over 100,000 inhabitants.

107. **LONDON**, the capital of the British Empire, is situated on the Thames, 40 miles from its mouth. It is the wealthiest and most commercial city in the world. Including Blackwall, Chelsea, Kensington, Greenwich, Woolwich, and other suburbs, it occupies an area of over 100 square miles, and contains one-seventh the population of England. Greenwich contains the Royal Observatory from which longitude is reckoned.

Among the magnificent public buildings of London are St. Paul's Cathedral, rising 404 feet from the ground; the Tower, founded by William the Conqueror; Westminster Hall; Westminster Abbey; and the Parliament Houses. The Tunnel under the Thames, and the Waterloo and London Bridges, are remarkable structures. The Zoological Gardens in Regent's Park, the Botanical Gardens at Kew, and the Crystal Palace, are among the interesting objects in the neighbourhood of London.

108. **Liverpool**, near the mouth of the Mersey, is the second city in population and commerce. Its docks extend nearly five miles along the river. It is the chief place of entry for raw cotton, and of export for cotton fabrics. The trade with America is very extensive.

Bristol, with important brass and iron foundries, is the third; and **Hull**, which carries on an extensive trade with the ports on the Baltic and North Seas, is the fourth commercial city.

109. Next in importance, as commercial towns, are the following:—**Southampton**, the chief packet station for the Mediterranean and the East and West Indies; **Newcastle**, ten miles from the mouth of the Tyne; **Tynemouth** and **Shields**; **Sunderland**, at the mouth of the Wear; **Whitehaven** (the last five export coal); **Birkenhead**, on the Mersey, opposite Liverpool; and **Dover**, on the Strait of Dover.

110. **Portsmouth** is a strongly fortified town, and the head-quarters of the British navy. Its harbour is magnificent, and its docks cover 120 acres.

Plymouth and **Devonport**, neighbouring towns, have an extensive commerce, and form an important naval station. In Plymouth Bay, three miles from the shore, is a breakwater a mile in length; and on a rock in the mouth of the bay is the Edystone Lighthouse.

Swansea on Sheppey Island, **Chatham**, **Deptford**, **Woodwich**, and **Pembroke** on Milford Haven, are noted for their dockyards and arsenals.

Yarmouth is celebrated for its herring fisheries. Yarmouth Row is a sheltered channel between the shore and extensive sand-banks parallel with the coast.

111. **Manchester** and **Salford**, separated by the Irwell, form the

great centre of the cotton manufactures. The first railway in England was opened in 1825 between Manchester and Liverpool, 31 miles distant. **Preston**, **Blackburn**, **Bolton**, and various other towns in Lancashire, are also engaged in the manufacture of cotton goods.

Leeds, **Bradfield**, **Huddersfield**, **Hatfield**, and **Wakefield**, are chief seats of woollen manufactures. **Stroud** is the chief centre of cloth manufacture in the west of England.

Birmingham exceeds all other places in the world in the manufacture of hardware, including fire-arms and all kinds of metallic goods.

Sheffield is specially noted for its cutlery.

112. **Keswick**, near Derwentwater, is noted for lead pencils; **Norwich**, for shawls and crapes; **Ipswich**, for farming tools, iron, and soap; **Macclesfield**, for silks; **Derby**, for silks, hosiery, and lace; **Nottingham**, for cotton hose and lace; **Leicester**, for worsted hose; **Worcester**, for gloves and porcelain; **Kidderminster**, for carpets and tapestry; **Coventry**, for silks and ribbons; **Northampton**, for shoes; **Gloucester**, for pins; **Luton**, **Dunstable**, and **St. Alban's**, for straw hats and bonnets.

Stoke-upon-Trent is in the centre of "The Potteries;" **Wolverhampton** is in the midst of collieries and foundries.

113. **Berwick** is a walled town, near the mouth of the Tweed.

Carlisle is also a border town on the Eden, memorable for its sieges. **Morpeth** has the largest cattle market in the north of England. **York**, on the Ouse, is an ancient town, and said to be the birth-place of Constantine the Great. **York Minster**, built in the Middle Ages, is the finest cathedral in the kingdom. **Lincoln** also has a fine cathedral.

114. **Canterbury**, the seat of the Primate of England, is sometimes called the ecclesiastical capital. Its cathedral was the scene of Thomas à Becket's murder.

Winchester was the capital of England in the time of the early Saxon kings.

115. **Bath**, a beautiful city, is in the neighbourhood of thermal springs, which formerly gave the town great celebrity as a watering-place. **Brighton**, **Hastings**, **Cheltenham**, and **Leamington** are fashionable watering-places.

Oxford and **Cambridge** are the seats of the two great universities. **Eton** and **Belford** are noted for their schools.

116. **Merthyr-Tydvil**, the largest town in Wales, is of rapid growth, owing its prosperity to its coal mines and iron works. **Swansea** is the chief place for copper smelting. Besides the native ore, large quantities are brought from Australia and Chili.

Caernarvon, a sea-port town, is noted for its castle, in which Edward II. was born. **Holywell** is an important mining and manufacturing town. It takes its name from the fountain of St. Winifred. **Cardiff** is an important port.

XVII. Industries.—117. The chief branches of industry are agriculture, mining, manufacturing, and commerce. The greatness of England depends on its maritime position, mineral wealth, and the energy of its inhabitants. England exceeds every other country in the world in the variety and value of its manufactures, including cotton, woollen, silk, leather, and all kinds of metallic goods and earthenware.

118. Coal may be regarded as the most important mineral; for without it steam power could not be obtained, and hence the mines could not be worked, or manufacturing carried on successfully. The commerce arises largely out of the manufactures.

119. The chief exports are the minerals and manufactured products, embracing cottons, woollens, linens, silks, and metallic goods.

The most important imports are flour, grain, tropical produce, and raw material for manufactures, as cotton, wool, flax, and silk.

The trade of Great Britain gives employment to about 30,000 ships and 300,000 seamen. The annual exports are worth about \$650,000,000; the imports, \$850,000,000.



EDINBURGH.

SCOTLAND.

I. History.—120. Scotland, or North Britain, was anciently called *Caledonia*, and sometimes *Albyn*.

Towards the end of the Roman power in Britain, Scotland was inhabited by two Celtic tribes called the *Picts* and *Scots*. The latter are said to have crossed over from the north of Ireland. In 843, the Picts and Scots were united into one nation under Kenneth MacAlpin; and in the eleventh century the country was called *Scotland*. (See *Collier's British History*, p. 39.)

121. For many centuries Scotland and England were almost constantly at war, and the inhabitants of the border territories lived in the greatest insecurity.

In 1003, James VI. of Scotland, being the nearest male heir of the Tudors, became King of England. The two countries, however, continued as distinct kingdoms until 1707, when, by mutual agreement, they were united into one State, under the name of Great Britain, with a common Parliament.

II. Position.—122. Scotland is between the same parallels as the north of Labrador.

N. lat. $54^{\circ} 38' - 68^{\circ} 40'$; W. lon. $1^{\circ} 45' - 6^{\circ} 18'$.

III. Form.—123. The outline is very irregular. Deep indentations of the sea divide the country into three penin-

sulas. There are also several small peninsulas on the west side. Cantire approaches within 13 miles of the coast of Ireland.

IV. Coast.—124. Owing to the rocky and elevated character of the shores, many of the coast waters are of little commercial value.

The chief **Waters** are—on the north, *Pentland Firth*; on the east, *Dornoch Firth*, *Cromarty Firth*, *Moray Firth*, *Firth of Tay*, and *Firth of Forth*; on the south, *Solway Firth*, *Wigton Bay*, and *Luce Bay*; on the west, *Firth of Clyde*, *Loch Long*, *Loch Fyne*, the *Sound of Kilbrannan*, *Islay*, *Jura*, and *Mull*, *Loch Linnhe*, *Loch Etive*, *Sound of Sleat*, *Loch Torridon*, *Loch Broom*, the *Minch*, and the *Little Minch*.

125. The Firths of Forth and Clyde are of the greatest service to commerce. They are connected by a canal 38 miles in length. Moray Firth and Loch Linnhe are connected by the Caledonian Canal. Solway Firth is very shallow, and a large portion of it is left uncovered at ebb tide.

126. The chief **Capes** are—on the north, *Cape Wrath*, *Dunnet Head*, and *Duncansby Head*; on the east, *Tarbet Ness*, *Kinnaird Head*, *Buchan Ness*, *Fife Ness*, and *St. Abb's Head*; on the south, *Southern Ness*, *Burrow Head*, and the *Mull of Galloway*; on the west, *Mull of Cantire*, *Ardnamurchan Point*, and the *Butt of Lewis*.

127. The principal **Islands** are the *Orkneys* and *Shetland Islands* on the north; and the *Hebrides* on the west.

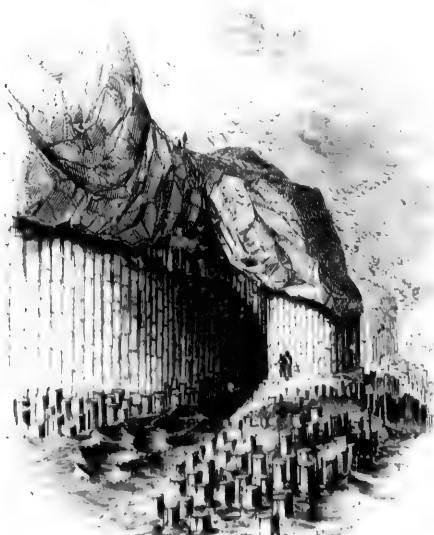
128. The Orkneys and Shetlands were ceded to Scotland by Denmark in 1468.

The Orkneys, separated from Scotland by Pentland Firth, from 5 to 8 miles broad, consist of about 50 islands, 27 of which are inhabited. *Pomona* or *Mainland*, and *Hoy*, are the largest. The islands are destitute of trees. Oats and vegetables are raised; cattle and sheep are reared; and the fisheries are important. *Kirkwall* and *Stromness*, on *Pomona*, are the chief places. "The Old Man of Hoy" is a high rock on the Island of Hoy.

The Shetlands, 50 miles north of the Orkneys, number over 100 islands, of which 30 are inhabited, and others afford pasturage. *Mainland*, *Yell*, and *Unst* are the largest. The islands are noted for their ponies. Fishing and the manufacture of woollens are the chief pursuits. *Lerwick*, on *Mainland*, is the principal place.

129. The Hebrides were once subject to Denmark, and afterwards to chieftains called "Lords of the Isles." They are about 500 in number, of which over 100 are inhabited. The coast line is exceedingly irregular. The Hebrides are divided by the Little Minch into the *Inner Hebrides* and *Outer Hebrides*.

The inner group lies close to the west coast of Scotland. The principal are *Skye*, 45 miles long, *Mull*, *Jura*, *Islay*, *Arran*, and *Bute*. Several of the islands present magnificent scenery. *Staffa*, a small island west of Bute, is remarkable for its basaltic columns and for



FINGAL'S CAVE.

Fingal's Cave. *Iona* contains the ruins of a monastery, a seat of learning and religion in the dark ages. *Figg* is famous for the Cave of Frances, in which all the inhabitants of the island were smoked to death by a hostile clan. (See *Scott's Tales of a Grandfather*.)

The outer group comprises *Lewis*, *North Uist*, *Benbecula*, *South Uist*, and *Barra*. They are separated by narrow passages, and extend in a line of about 120 miles in length.

EXERCISE.—Trace the coast line of Scotland, marking the inlets, capes, and islands.

V. Area.—130. Including the islands on the coast, which

comprise one-eighth of the whole area, Scotland is about twice the size of the Peninsula of Nova Scotia:

—equal to a square of 177 miles.

Length, 276 miles; breadth, from 30 to 175 miles.

VI. Surface.—131. Scotland is a mountainous country. It is usually divided into two regions;—the *Highlands*, in the north and west; and the *Lowlands*, in the south and east. A plain called *Strathmore*, or "the great valley," extending across the country north-easterly from the estuary of the Clyde, forms the northern limit of the Lowlands.

The general slope of the country is easterly. The basin of the Clyde has a westerly slope; and a small section in the south has a southerly slope, toward Solway Firth.

132. The mountain ranges generally extend across the country south-west and north-east. The Highlands are rugged and wild, and are often penetrated by deep glens. They are divided into two sections, separated by *Glenmore*, or "the great glen," which stretches across the country from Loch Linne to Moray Firth.

133. North of Glenmore, are the *Northern Highlands*, which form a rugged plateau; on the south are the *Grampians*, the highest mountains in the British Isles.

In the south of Scotland are the *Chariot*, *Lowther*, *Lammermoor*, and *Pentland Hills*.

Ben Nevis, in the Grampians, the highest peak in the British Isles, has an elevation of 4496 feet; Ben Macduil, 4296; Cairn Gorm, 4090; Ben Lomond, 3102; Ben Attow, in the Northern Highlands, 4000; and Ben Wyvis, 3422. The snow line has an elevation of about 5000 feet.

VII. Rivers.—134. With the exception of the Clyde, which flows westerly, the principal rivers are on the eastern slope. The largest rivers are the *Tweed*, *Forth*, *Tay*, *Dee*, *Don*, *Spey*, and *Clyde*.

The Tay, 130 miles in length, is the longest stream, has the most extensive basin, and is noted for the rapidity of its current. The Clyde, noted for the ship-building along its banks, is about 100 miles in length. Owing to the unevenness of the country, most of the rivers are unnavigable.

VIII. Lakes.—135. Small lakes, called *lochs*, are very numerous, particularly in the Highland regions. They are generally in mountain glens, bordered by high cliffs, which invest them with beauty and grandeur. The principal are *Lomond*, *Katrine*, *Farn*, *Leven*, *Awe*, *Tay*, *Rannoch*, *Ericht*, *Ness*, *Lochy*, *Marce* and *Shin*.

Loch Lomond, 21 miles long, with an area of about 40 square miles, is the largest lake in Britain.

EXERCISE.—Lay down the mountains, rivers, and lakes on the map of Scotland.

IX. Soil.—136. Only about one-fourth of Scotland is suitable for cultivation. The Lowlands in the south-east are fertile and agriculture is in a very advanced condition. The Highlands afford fine pasturage.

X. Climate.—137. The climate in the south-east is similar to that of England; the Highland region is colder and more humid.

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XI. Minerals.—138. The chief minerals are coal, iron, lead, slate, and granite.

The coal fields occupy the whole breadth of the country between Fife Ness and the Firth of Clyde. Iron is abundant in the same region. Lead is obtained from the Lowther Hills.

XII. Plants.—139. The Highlands contain natural forests of pine, birch, oak, and ash. During the present century extensive forests of larches and other trees have been planted on the southern slopes of the Grampians.

Wheat, barley, and oats are cultivated in the Lowlands. Wheat will not ripen in the Highlands, which are chiefly devoted to pasturage.

XIII. Animals.—140. The deer of the Highland forests are the most important wild animals. Sheep and cattle are extensively reared.

XIV. Inhabitants.—141. The population in 1861 was 3,062,000, making about 100 to the square mile.

In the Highlands, the people are mostly of the Celtic race, and speak Gaelic; in the Lowlands, they are of Saxon and Scandinavian origin. Presbyterianism is the prevailing religion.

The Scotch are industrious, brave, and intelligent. Many emigrate to the British colonies and the United States, where they usually acquire a large share of prosperity.

Scotland has four universities—*Edinburgh*, *Glasgow*, *Aberdeen*, and *St. Andrews*.

XV. Divisions.—142. Scotland is divided into thirty-three *Counties*, which are subdivided into *Parishes*.

Cromarty County consists of ten small detached portions, chiefly in the northern part of Ross. This singular arrangement is said to have originated with an Earl of Cromarty, who owned these territories, and wished to have them all grouped together.

FOURTEEN SOUTHERN COUNTIES.

Counties.	Chief Towns.
LINLITHGOW, or WEST LOTHIAN.....	Linlithgow, 4000.
EDINBURGH, or MID- LOTHIAN.....	Edinburgh, 168,000; Leith, 31,000; Musselburgh, 7000; Dalkeith.
HADDINGTON, or EAST LOTHIAN.....	Haddington, 4000; Dunbar; Prestonpans.
BERWICK.....	Greenlaw, Dunse, Coldstream.
ROXBURGH.....	Jedburgh; Hawick, 8000; Kelso.
SELKIRK.....	Selkirk, 4000; Galashiels.
PEEBLES.....	Peebles, 2000.
LANARK.....	Lanark; Glasgow, 395,000; Rutherglen; Airdrie, 13,000; Hamilton.
DUMFRIES.....	Dumfries, 14,000; Annan.
KIRKCOUBRIGHT.....	Kirkcubright, 3000; Castle-Douglas.
WIGTON.....	Wigton; Stranraer, 6000.
AYR.....	Ayr, 19,000; Irvine, 7000; Kilmarnock, 23,000; Girvan.
RENFREW.....	Renfrew; Port-Glasgow; Greenock, 42,000; Paisley, 47,000; Pollockshaws.
BUTE.....	Rothesay, 7000.

NINE MIDDLE COUNTIES.

FIFE.....	Cupar, 5000; St. Andrews, 5000; Kirkcaldy, 6000; Dunfermline, 8000.
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Counties.	Chief Towns.
KINROSS.....	Kinross, 2000.
CLACKMANNAN.....	Clackmannan; Alloa, 6000.
STIRLING.....	Stirling, 10,000; Falkirk, 5000; Bannockburn; Kilsyth; Carron.
DUMBARTON.....	Dumbarton, 6000; Kirkintilloch, 6000.
ARGYLE.....	Glasgow; Campbeltown, 6000; Dunoon.
PERTH.....	Perth, 14,000; Crieff; Dunkeld; Dunblane; Blairgowrie.
FORFAR.....	Forfar, 9000; Dundee, 90,000; Arbroath, 18,000; Montrose, 15,000; Brechin.
KINCARDINE.....	Stonehaven.

TEN NORTHERN COUNTIES.

ABERDEEN.....	Aberdeen, 74,000; Peterhead, 8000.
BANFF.....	Banff, 7000; Keith.
MORAY or ELGIN.....	Elgin, 8000; Forres, 4000.
NAIRN.....	Nairn, 3000.
INVERNESS.....	Inverness, 12,000.
ROSS.....	Dingwall, 2000; Tain.
CROMARTY.....	Cromarty, 2000; Stornoway (Lewis Island).
SUTHERLAND.....	Dornoch.
CAITHNESS.....	Wick, 8000; Thurso, 3000.
ORKNEY and SHETLAND.....	Kirkwall, 4000; Lerwick, 3000.

EXERCISE.—Mark the county lines and chief towns on the map of Scotland.

XVI. Towns.—143. Edinburgh, the capital of Scotland, near the Firth of Forth, is an old city, and one of the most beautiful in Europe. It is built on two ridges running east and west, separated by a deep hollow. The Old Town occupies the southern ridge; the New Town, the northern.

Edinburgh is the seat of a distinguished university, and has several first class publishing houses. It is the place where the representative peers for Scotland are elected, and where the general ecclesiastical assemblies are held. The most noted buildings are the Castle, on a precipitous rock 437 feet high; and Holyrood House, the palace of the Scottish Sovereigns.

The trade of Edinburgh is carried on through *Leith*, 2 miles distant.

144. *Glasgow*, on the Clyde, is the largest city in Scotland, and the first in manufactures and commerce, ranking next to Manchester and Liverpool. It has a fine Gothic cathedral and a university.

Greenock, on the Firth of Clyde, is the principal port in the west. It is extensively engaged in ship-building, sugar-refining, and trade with America. *Port-Glasgow* also has considerable foreign trade.

Paisley, an old town, is celebrated for its extensive manufactures, embracing shawls, fancy goods, and thread. *Haddington* has a large grain market. *Dunbar* and *Prestonpans* are noted for battles. (See *Collier's British History*, pp. 221, 231.) *Hawick*, *Selkirk*, and *Galashiels* have important woollen manufactures.

Montrose contains the ruins of an ancient abbey; and 3 miles distant is *Abbotsford*, once the residence of Sir Walter Scott.

Dumfries, the burial-place of the poet Burns, has a large cattle market. *Ayr* is an important sea-port. *Kilmarnock* is noted for carpets. *Rothesay*, on the Island of Bute, is a favourite watering-place.

145. *St. Andrews* is the seat of the oldest university in Scotland. *Dunfermline* is noted for linen manufactures. *Alloa* has extensive breweries. *Stirling* is noted for its castle. Two miles south is *Bannockburn*, where a great battle was fought. *Falkirk* has extensive iron works and great cattle fairs. *Dumbarton* has an ancient castle. *Perth* is a beautiful city, and was formerly the capital of Scotland. *Seone Palace* was the royal residence. The famous stone on which the king sat during the coronation is now in Westminster Abbey.

Dundee, the third in size among the towns of Scotland, is an important sea-port, and a great centre of coarse linen manufactures. *Arbroath* and *Montrose* are important manufacturing and commercial towns.

146. *Aberdeen*, a handsome granite town at the mouth of the Dee, carries on extensive ship-building, manufacturing, and commerce. In the interior is *Balmoral*, the Queen's Highland residence. *Peterhead* is largely engaged in the whale and herring fisheries, and exports vast quantities of granite. *Elgin* has ruins of an ancient Gothic cathedral. *Inverness*, sometimes called the capital of the Northern Highlands, is an old town at the entrance of the Caledonian Canal. In its neighbourhood is *Culloden Moor*, where the Pretender was defeated in 1746. *Wick* is extensively engaged in the herring fisheries.

XVII. Industries.—147. Pastoral husbandry, agriculture, mining, manufacturing, ship-building, commerce, and fishing are the chief pursuits.

Immense numbers of cattle and sheep are sent to the English markets. The manufactures embrace cottons, woollens, linens, and hardware. Ship-building is an important business on the banks of the Clyde and other places. The exports and imports are similar to those of England. The fisheries are of great importance, especially the salmon fisheries of the rivers, and the herring fisheries on the northern coasts.



DUBLIN.

IRELAND.

I. History.—148. The Celtic name for this island was *Erin*, from which the names *Ierne* and *Ireland* have probably been derived. The Romans called it *Hibernia*.

The island also, for a time, bore the name of *Scotia* or *Scotland*, which was afterwards transferred to the northern part of Britain.

Christianity was introduced in the fifth century, and for a long period during the dark ages, Ireland was distinguished for its literature.

149. In the twelfth century, Ireland was the seat of several petty kingdoms, whose discords resulted in the loss of independence to the island. It was annexed to England by Henry II. in 1172. The Irish parliament was abolished in 1801, and England, Scotland, and Ireland, with a common

parliament, were designated *The United Kingdom of Great Britain and Ireland*.

Irish barons at various times resisted the authority of the English. In consequence of rebellion, large estates in the Province of Ulster were confiscated in the reign of James I., and bestowed on English and Scottish colonists. (See *Collier's British History*, pp. 75, 191, 205, 213, 220, 297, 299, 312, 324.)

II. Position.—150. Ireland is a little north of east from Newfoundland, with which it is connected by submarine telegraph.

N. lat. $51^{\circ} 26' - 55^{\circ} 21'$; W. lon. $5^{\circ} 26' - 10^{\circ} 28'$.

III. Form.—151. Ireland is elliptical in its general form.

The length, from Fair Head to Mizen Head, is over 300 miles; the greatest breadth is about 180 miles.

IV. Coast.—152. The eastern coast is generally low, and navigation is obstructed by sand-banks; the other sides, deeply indented with bays and fine harbours, are rocky and bold.

The total length of coast-line is about 2200 miles.

153. The Giant's Causeway, on the north, is the most remarkable feature of the coast. It consists of many thousands of closely connected basaltic columns, or natural pillars of volcanic rock, rising out of the sea, resembling, at a distance, human architecture. It forms a



GIANT'S CAUSEWAY.

platform, or pier, 700 feet in length, 350 in breadth, and 30 in extreme height, extending from the base of a cliff 400 feet high. According to Irish legend, this natural wonder was the work of giants who wished to make a road to Scotland.

154. The principal **Coast Waters** are:—

On the north, *Loughs Swilly* and *Foyle*;

On the east, *Belfast Lough*, *Strangford Lough*, *Dundrum Bay*, *Carlingford Lough*, *Dundalk Bay*, *Dublin Bay*, and *Wexford Harbour*;

On the south, *Waterford*, *Dungarvan*, *Youghall*, *Cork*, and *Kinsale Harbours*;

On the west, *Dunmanus*, *Bantry*, *Kenmare*, *Dingle*, and *Tralee Bays*, *Mouth of the Shannon*, *Galway*, *Clew*, and *Blacksod Bays*, *Broad Haven*, *Killala*, *Sligo*, and *Donegal Bays*.

155. The chief **Capes** are:—

On the north, *Bloody Foreland*, *Malin Head*, and *Fair Head*;

On the east, *Howth Head* and *Wicklow Head*;

On the south, *Carnore Point*, *Cape Clear*, and *Mizen Head*;

On the west, *Crow*, *Dunmore*, *Kerry*, *Loop*, *Slane*, *Achil*, and *Erris Head*, and *Rossan Point*.

156. The **Islands** are *North Arran*, *Tory*, and *Rathlin*, on the north; *Cape Clear Island*, on the south; *Valentia*, *Blasket*, *South Isles of Arran*, *Clare*, and *Achil*, on the west.

V. Area.—157. Ireland is about twice as large as the Peninsula of Nova Scotia:

— equal to a square of 180 miles.

VI. Surface.—158. The surface is generally low, consisting of an extensive central plain, bordered by isolated mountain masses near the coasts. There are two principal slopes—the northern and the southern. The latter embraces over two-thirds the whole area.

159. In the north are the *Donegal Mountains*, *Carnogher*, and *Mountains of Antrim*; in the east, the *Mourne* and *Wicklow Mountains*. In the south-west are *Magillicuddy Reeks* and several other parallel ranges, between which the ocean penetrates in deep bays. In the west are the *Nephin Beg*, *Croagh Patrick*, *Mulree*, *Connemara*, and *Twelve Pins*.

The mountains of Ireland vary in height from 1500 to 3000 feet. The highest summit is *Carn-tuail*, 3404 feet, in *Magillicuddy Reeks*.

160. A large portion across the middle of Ireland, estimated at one-seventh the whole area, consists of bogs. The *Bog of Allen* is the most extensive. Many of the bogs are covered from 20 to 25 feet, or even to greater depths, with peat formed of decayed and compressed mosses and other vegetable matter. Peat, when cut and dried in the heat of summer, is extensively used as fuel. Trunks of oak, yew, pine, and other trees, in good preservation, are found imbedded among the peat.

VII. Rivers.—161. Many of the rivers, flowing over a level country, are navigable throughout a large part of their course. They often expand into lakes.

The principal rivers on the northern slope are the *Erne*, *Foyle*, *Bann*, and *Laggan*; on the southern slope, the *Shannon*, *Bandon*, *Lee*, *Blackwater*, *Suir*, *Barrow*, and *Slaney*. On the east are the *Liffey* and *Boyne*.

The Shannon, 250 miles long, is much the largest river. It is navigable to Lough Allen, about 200 miles. It is also connected by canals with Dublin Bay.

VIII. Lakes.—162. Lakes, called *loughs*, are numerous. The principal are *Erne* and *Neagh*, in the north; *Allen*, *Ree*, and *Dery*, expansions of the Shannon; and the *Lakes of Killarney*, in the south-west. The lake coasts are generally low, excepting those of Killarney.

Lough Neagh, with an area of 150 square miles, is the largest lake in the British Isles. Its waters contain mineral substances which give them petrifying qualities.

The Lakes of Killarney, three in number, upper, middle, and lower, in the neighbourhood of the lofty height of *Carn-tuail*, are celebrated for their picturesque beauty.

IX. Soil.—163. The soil is generally fertile, but not so skillfully cultivated as in England and Scotland. A large part of the country is owned by landlords who reside in England.

X. Climate.—164. The climate is healthful, remarkably temperate, and humid. The prevalent winds are westerly.

XI. Minerals.—165. Ireland is not so rich in minerals as Britain. Coal occurs, but is not plentiful. Iron, which is more abundant, is not much wrought. Copper and lead are obtained in the south. Limestone, granite, marble, and slate are plentiful.

XII. Plants.—166. There are no large forests. The moist and mild climate specially adapts the country to the production of grasses; and the remarkable verdure of the pastures and meadows has obtained for Ireland the name of the *Emerald Isle*. Among the grains, oats flourish best, but wheat is extensively grown. Potatoes form a very important crop, and flax is largely cultivated, especially in the north.

167. Previous to 1845, potatoes were the main dependence and formed the chief food of the lower classes. The failure of the crop resulted in a terrible famine and pestilence, which swept off many of the inhabitants, and drove many others to foreign countries. Grain and other crops have since received more attention.

XIII. Animals.—168. Wild animals are small, and not numerous. The toad is not found in Ireland.

Among the domestic animals are immense numbers of cattle, sheep, and swine.

XIV. Inhabitants.—169. The population in 1861 was 5,764,500; in 1841 it was 8,066,500.

This remarkable decrease of 2,302,000 inhabitants in twenty years, is chiefly attributable to the famine from 1845 to 1847, and to emigration. (See 167.)

The native Irish belong to the Celtic family. Descendants of English and Scotch are numerous, forming the majority in the Province of Ulster.

170. The Irish are warm-hearted, witty, and excitable. Many of them are very poor and ignorant. National schools have been established for the education of the middle and lower classes.

The higher institutions of learning are the *Queen's Colleges* at Belfast, Cork, and Galway; *Trinity College* and the *Catholic University*, Dublin; and *St. Patrick's College*, Maynooth.

The Episcopal religion is established by law. Roman Catholics form the great majority of the population. The Presbyterians prevail in Ulster.

XV. Divisions.—171. Ireland is divided into four Provinces:—*Ulster*, in the north; *Leinster*, in the east; *Munster*, in the south; and *Connaught*, in the west.

The Provinces are sub-divided into thirty-two Counties:—

NINE COUNTIES IN ULSTER.

Counties.	Chief Towns.
DONEGAL	Lifford, 1000; Ballyshannon, 3000.
LONDONDERRY.....	Londonderry, 20,000; Coleraine, 6000.
ANTRIM	Belfast, 120,000; Lisburn, 7000; Ballymena, 7000; Carrickfergus.
DOWN.....	Downpatrick, 4000; Newtownards, 10,000; Newry, 11,000.
ARMAGH	Armagh, 9000; Lurgan, 8000; Portadown, 6000.
TYRONE	Omagh, 3000; Strabane, 4000; Dungannon.
FERMANAGH.....	Enniskillen, 6000.
MONAGHAN.....	Monaghan, 4000; Clones, 2000.
CAYAN	Cavan, 3000.

TWELVE COUNTIES IN LEINSTER.

LOUTH.....	Dundalk, 10,000; Drogheda, 15,000.
MEATH.....	Trim, 2000; Navan, 4000; Kells, 3000.
WEST MEATH.....	Mullingar, 5000; Athlone, 6000.
LONGFORD.....	Longford, 5000.
DUBLIN.....	Dublin, 250,000; Kingstown, 12,000; Howth.

Counties.	Chief Towns.
WICKLOW.....	Wicklow, 3000; Arklow, 5000.
KILDARE.....	Athy, 4000; Naas, 3000; Maynooth, 2000.
KING'S.....	Tullamore, 5000; Parsonstown, 5000.
QUEEN'S.....	Maryborough, 3000; Mountmelick, 3000.
KILKENNY.....	Kilkenny, 13,000.
CARLOW.....	Carlow, 8000.
WEXFORD.....	Wexford, 12,000; Enniscorthy, 5000; New Ross, 7000.

SIX COUNTIES IN MUNSTER.

WATERFORD.....	Waterford, 23,000; Portlaw, 4000; Dungarvan, 6000.
CORK	Cork, 79,000; Queenstown, 9000; Skibbereen, 4000; Kinsale, 4000; Bandon, 6000; Youghall, 6000; Fermoy, 6000; Mallow, 4000.
KERRY.....	Tralee, 10,000; Killarney, 5000; Dingle, 2000.
LIMERICK	Limerick, 45,000; Rathkeale, 3000.
CLARE	Ennis, 7000; Kilrush, 5000.
TIPPERARY	Clonmel, 11,000; Carrick-on-Suir, 5000; Cashel, 4000; Thurles, 5000; Tipperary, 6000; Nenagh, 6000.

FIVE COUNTIES IN CONNAUGHT.

GALWAY	Galway, 17,000; Tuam, 5000; Ballinasloe, 3000.
MAYO.....	Castlebar, 3000; Ballina, 6000; Westport, 4000; Killybegs.
SLIGO.....	Sligo, 10,000.
LEITRIM.....	Carrick-on-Shannon, 2000.
ROSCOMMON.....	Roscommon, 3000.

EXERCISE.—Draw a complete map of Ireland.

XVI. Towns.—172. Dublin, the metropolis of Ireland and residence of the Lord-Lieutenant, is one of the finest cities in Europe. It occupies both sides of the Liffey near its mouth, and has an extensive commerce. There are many magnificent public buildings. Phoenix Park, in the suburbs of Dublin, includes large and finely ornamented grounds. Its forests are the home of large herds of deer.

Kingstown, 6 miles from Dublin, at the entrance of the bay, is the steam-packet station to Liverpool and Holyhead.

173. *Belfast*, on Belfast Lough, is the second city in population, and the first in manufactures, of which linen and cotton are the most important.

Cork, at the mouth of the Lee, has one of the best harbours in the world. Its ship-building, manufactures, and trade are important. Agricultural produce is largely exported to England.

Queenstown, on Great Island, in Cork Harbour, is a port of call of the mail steamers for America.

174. *Londonderry*, on the Foyle, has considerable trade, and is noted for its successful resistance to the besieging force of James II. in 1689. (See *Collier's British History*, p. 248.)

Coleraine, 10 miles from the Giant's Causeway, is noted for its linen. *Armagh*, the seat of the Archbishop, is called the ecclesiastical capital of Ireland. *Lurgan* and *Portadown* have linen manufactures.

175. *Drogheda*, on the Boyne, manufactures linens and cottons. Two miles from the town the battle of the Boyne was fought in 1690. (See *Collier's British History*, p. 248.)

Waterford, on the Suir, 12 miles from the sea, carries on an immense trade with England, exporting live stock, dairy and farm produce, chiefly to Bristol. (See *Collier's British History*, p. 76.)

Killarney, near one of the lakes, is the resort of tourists. In the neighbourhood of *Youghall*, Sir Walter Raleigh introduced the culture of potatoes into Ireland.

176. *Limerick*, on the Shannon, 60 miles from its mouth, is an ancient town, has a large trade, and is noted for the manufacture of lace. *Galway*, the chief port in the west, is connected with Dublin, over 100 miles distant, by rail. *Ballinasloe* has the largest cattle and sheep fair in Ireland. *Ennis* is noted for its Gothic abbey. *Cashel* contains the ruins of an ancient cathedral.

XVII. Industries.—177. Agriculture, with dairy husbandry and the rearing of cattle, is the leading pursuit.

Manufacturing is confined chiefly to the north. Linen fabrics are the most important. Muslin and lace are extensively manufactured in the north-east. The principal export trade is with Britain, embracing grain, dairy produce, cattle, bacon, linen, and flax.

THE UNITED KINGDOM OF GREAT BRITAIN AND IRELAND.

XVIII. Government.—178. England, Wales, Scotland, and Ireland, as we have already seen (149), form one kingdom, having the same Sovereign and Parliament.

The government of Great Britain and Ireland is a *limited hereditary monarchy*. The Sovereign may be either a *king* or a *queen*.

179. The power of the Sovereign is limited by the *Parliament*, which consists of the *House of Lords* and the *House of Commons*.

The House of Lords is composed of about 470 members: of these 420 are English peers, 26 English bishops; 16 Scottish peers; 28 Irish peers, 4 Irish bishops. The English peers are members by right of birth; the Scottish and Irish are representative.

The House of Commons is composed of 658 members, who are elected by the people;—500 for England and Wales, 53 for Scotland, and 105 for Ireland.

180. Parliament alone has the power to make and repeal laws; but its Acts require to be ratified by the Sovereign. All Bills relating to taxes and the expenditure of the public money must originate with the House of Commons.

181. The *Revenue* of Great Britain is between \$350,000,000 and \$400,000,000, and the *National Debt* about \$1,000,000,000. (See *Collier's British History*, pp. 274, 306.)

182. An insular position and an unrivalled *fleet* render Great Britain invincible against invasion. The *land force* is much smaller than that of the "Great Powers" on the Continent.

183. The regular *army* amounts to about 200,000 men, of whom a large number are kept in India and the various colonies. The militia, yeomanry, cavalry, and pensioners comprise nearly 150,000; and the volunteers about the same number.

Great Britain ranks as the first naval power in the world. The *fleet* comprises about 600 war ships, the majority propelled by steam, carrying 15,000 guns, and from 60,000 to 80,000 men.

THE BRITISH EMPIRE.

184. The British Empire consists of the United Kingdom of Great Britain and Ireland, with the British Possessions

and Colonies scattered over the whole world. In extent of territory it exceeds every other political division, and in population every other except China.

The Empire includes an area equal to the whole of North America, or about one-sixth the land surface of the Earth, and the population is about 224,000,000.

185. Below is a tabular view of the British Empire. For further particulars, see under the various great divisions of the Earth:—

Name.		Sub- square in Eng. miles which area equals.	Area in square miles.	Population.
British Isles, Heligoland, Gibraltar, Malta, and Gozo,	} in Europe ..	350	122,620	30,000,000
British India, Ceylon, Hong-Kong, and Aden,				
Cape Colony, Natal, Sierra Leone, and other parts of Western Africa, Mauritius, Seychelles, St. Helena, and other islands,	} in Africa ...	387	150,000	653,000
Dominion of Canada, Newfoundland, Prince Edward Island, British Columbia, and Vancouver, Hudson's Bay Territory, Honduras, Guiana, Jamaica, and other West India Islands,				
Australia, Tasmania, and New Zealand	} in Oceania...	1765	3,118,000	1,500,000

EXERCISE.—Find the length of the shortest day in the year at London (lat. 51° 30'), Edinburgh (lat. 56°), and Lerwick (lat. 60° 10').

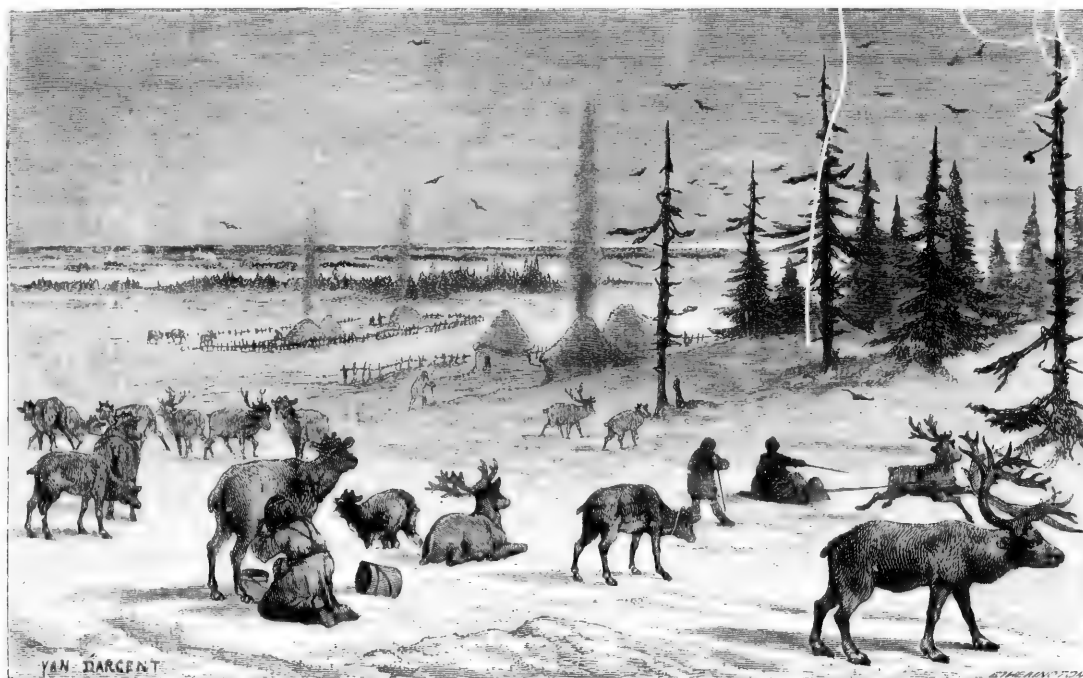
QUESTION.—A ship sails from Liverpool, England, to Halifax; thence to the West Indies; thence to Greenock. What are the probable freights? Also, find the distance sailed.

NORWAY AND SWEDEN.

186. Norway and Sweden, comprising the peninsula of Scandinavia, form two distinct kingdoms united under one sovereign.

During the Saxon period of British history, Norway, Sweden, and Denmark were the home of bands of pirates called vikings, who were the terror of the maritime countries of Europe. By the Treaty of Kalmar, 1397, the three countries were united under Margaret of Denmark. Sweden recovered its independence under Gustavus Vasa, in 1521. On the re-adjustment of European affairs in 1814, Norway was taken from Denmark and annexed to Sweden. (See *Collier's Great Events*, pp. 95, 259.)

187. The coast of Norway is remarkable for its deep



REIN-DEER.

narrow bays, called *fjords*, which are often bordered by rocky cliffs of great height.

The *Lofoden Islands*, off the north-west coast, are noted for their fisheries. Near them is the *Maelström*, a famous whirlpool formed by opposing currents at certain states of the tide. *Gottland* and *Oland*, in the Baltic, belong to Sweden. Small islands are very numerous on the coast.

188. The **surface** of Norway is elevated, the *Scandinavian Mountains* extending through the peninsula. The highlands generally rise boldly from the Atlantic, spread out in broad table-land over the greater part of Norway, and descend more gradually to the low plains of Sweden.

The Scandinavian highlands include the *Hardangerfeld*, the *Dovre-feld*, and the *Kiölen Mountains*. (See *Europe*, 25; and *Physical Geography*, 28.)

189. The **rivers** are generally rapid torrents. The principal are the *Glommen*, in Norway; and the *Göta, Dal*, and *Tornea*, in Sweden. All are on the eastern slope.

The most important **lakes** are *Wener, Wätter, Mälär*, and *Hielmar*, in Sweden. *Wener* is about the size of Prince Edward Island.

190. The **climate** is cold except in the south; but it is less severe than in other countries of the same latitude. The west coast is very humid.

In the northern part of the country, at mid-winter, the sun does not appear above the horizon for several weeks. Owing to the correspondingly long days in summer, the heat is great. Barley is said to come to maturity at Hammerfest in six weeks.

191. The **minerals** are iron, copper, and silver. The iron ore of Sweden is of superior quality, and is much used in the manufacture of fine steel.

192. The chief cultivated **plants** are barley, oats, rye, wheat, potatoes, flax, and hemp. The quantity of arable land is comparatively small.

The mountain slopes in the southern and central portions are covered with vast forests of birch, pine, and fir trees. The lichens and mosses of the north furnish food to large herds of rein-deer.

The fisheries of the coasts, rivers, and lakes are very important.

193. The **population** of Norway is 1,500,000; of Sweden, 3,857,000.

The inhabitants are generally intelligent and industrious. Children between eight and fourteen years of age are compelled to attend school, or receive instruction at home. The Lutheran religion is established by law.

194. The **towns** of Norway are *Christiania* (39,000), the capital; *Bergen*, an important sea-port; *Drontheim*, the former capital; and *Hammerfest*, on Quallöe Island. The towns of Sweden are *Stockholm* (112,000), the capital; *Gothenburg*; *Norköping*; *Malmö*; *Upsala*; *Carlsrona*, the chief naval station; and *Kalmar*, noted for the treaty of 1397.

Stockholm, built on peninsulas and small islands at the junction of Lake Mälär with the Baltic, has a large commerce.

195. The **exports** are fish, timber, iron, copper, and tar. The **imports** are grain, manufactured goods, and tropical produce.

196. The **government** is a limited monarchy. Each kingdom has its own parliament, constitution, and laws.

197. **Lapland**, on the north-east of Sweden, and extending easterly to the White Sea, belongs partly to Sweden and partly to Russia. The Laplanders are a nomadic race of very small stature, seldom exceeding 4 feet 9 inches in height. Their habits are generally moral, except in the use of ardent spirits. Their wealth consists in herds of rein-deer. The flesh and milk of these animals furnish the Laplander with food, and their skin with clothing.

The island of *St. Bartholomew*, in the West Indies, belongs to Sweden.

DENMARK.

198. Denmark is one of the oldest monarchies of Europe. Its history is closely connected with that of Norway and Sweden. In the eleventh century, Canute, a Danish king, ruled over England, Denmark, Norway, and Sweden. Denmark is now a small, weak State.

199. In 1814 Swedish Pomerania and Rügen were given to Denmark in compensation for Norway. In the following year these places were given to Russia in exchange for Lauenburg. Denmark was invaded, in 1864, by German forces, and compelled to relinquish the southern part of her territories, comprising the duchies of Schleswig, Holstein, and Lauenburg. These duchies now belong to Prussia. (*See Norway and Sweden.*)

The Jutes and Angles, two of the tribes who established the Saxon Heptarchy in England, came from Denmark.

200. Denmark is now comprised within the peninsula of Jutland and the adjoining archipelago. Its **bounds** are—on the north, the Skager Rack; on the east, the Cattegat, the Sound, and the Baltic; on the south, Germany; on the west, the North Sea.

The northern extremity of the peninsula is called the *Skaw*.

201. The largest island is *Seeland*, which is nearly as large as Cape Breton, and is separated from Sweden by a narrow strait called the *Sound*. *Fünen*, about half as large, is separated from Seeland by the *Great Belt*, and from the peninsula by the *Little Belt*. *Langeland*, *Laland*, *Falster*, and *Moen* are next in size.

202. The total area of Denmark is about equal to the Peninsula of Nova Scotia. The islands comprise two-fifths of the whole.

203. The **surface** is low and level. In some parts dikes are required to keep out the sea. The streams are quite small. The soil, except in the north, is generally well suited to agriculture. The minerals are unimportant.

204. The **climate** is mild, and excessively humid. The principal crops are barley, rye, wheat, oats, grasses, potatoes,

turnips, and apples. Horses, cattle, and sheep are numerous. The fisheries are important.

205. The **inhabitants** have long been noted as bold seamen. They are generally well educated. Denmark is said to have a larger proportion of its population at school than any other country in the world.

The Lutheran religion is established by law, but all sects are tolerated.

Towns.—206. *Copenhagen* (155,000), the capital, is situated partly on Seeland and partly on the small island of *Amager*. It is strongly fortified, has a good harbour, and an extensive trade.

Elsinore, at the narrowest part of the Sound, is the place where all vessels passing to and from the Baltic, except those of Denmark and Sweden, were formerly compelled to pay toll. Near the town is Cronborg Castle. *Aalborg* and *Aarhuus* are sea-ports. *Viborg* is a small but ancient town in the interior. *Roeskilde*, 10 miles from Copenhagen, is the burial-place of the Danish sovereigns. The Rothschild family is said to take its name from this place.

207. The **exports** are agricultural and dairy produce, beef, pork, wool, hides, and flax. The **imports** are iron, coal, manufactured goods, and tropical produce.

208. The **government** is a hereditary limited monarchy. The *Diet*, or Parliament, consists of two Houses, both elective.

209. The *Feroe Islands*, north of the Shetlands, belong to Denmark. There are seventeen inhabited. Population, 8000. Fishing, tending sheep, and collecting eider down, are the chief pursuits.

Denmark also owns Greenland and Iceland; and in the West Indies Santa Cruz, St. Thomas, and St. John.

QUESTION.—A vessel sails from Hull to Copenhagen and back; through what waters does she pass, and what freights does she probably carry?

RUSSIA.

210. Russia was formerly occupied by barbarous hordes of Scythians. Ruric, a Scandinavian freebooter who made himself master of a large part of the country in 862, was the founder of the empire. His descendants held the throne till 1698. Christianity was introduced in 980.

211. For two centuries and a half, commencing 1238, Russia was held in bondage by Tartars from Central Asia. It is to the extraordinary efforts of Peter the Great, who became Czar in 1682, that Russia owes her civilization and position as one of the Five Great Powers of Europe. The country was previously in a state of barbarism. Extension of territory has long been the settled policy of the Czars, and it has often been effected by the grossest injustice towards weaker States.

Finland, between the Gulfs of Bothnia and Finland, was taken from Sweden. Poland, once a powerful kingdom in the centre of Europe, having been previously robbed of large territories by Russia, Prussia, and Austria, was wholly broken up in 1795. Large portions of Independent Tartary and other parts of Asia have been annexed to the empire. The absorption of European Turkey is prevented by the opposition of Britain and France. (*See Collier's Great Events*, pp. 257, 271.)



WINTER TRAVELLING IN RUSSIA.

212. The **coast** is comparatively limited, and is chiefly confined to seas which are ice-bound during a large part of the year. The chief ports are on the Black Sea and the Baltic.

The principal **islands** are *Nova Zembla* and *Spitzbergen*, in the Arctic Ocean; and the *Aland Archipelago*, *Oesel*, and *Dago*, in the Baltic.

213. *Nova Zembla* consists of two islands separated by a narrow strait. The coast abounds in seal and water-fowl. Rein-deer, polar bears, and ermine are also numerous. There are no permanent inhabitants.

Spitzbergen consists of a group of islands, including the most northerly land known ($80^{\circ} 48'$). They are often visited by those engaged in the whale and seal fisheries.

The *Aland Archipelago*, embracing about sixty islands, is an important naval station for the Russian fleet.

214. The **surface** of Russia consists of a vast plain, including the greater portion of the lowlands in the north-east of Europe.

The *Ural* and *Caucasus Mountains* separate Russia in Europe from Asiatic Russia. (See *Europe*, 24-27.)

215. The **rivers** are numerous and large. They are gener-

ally sluggish, and navigable throughout the greater part of their course. The most important are the *Dwina*, *Petchora*, *Volga*, *Don*, *Dnieper*, *Vistula*, *Niemen*, *Duna*, and *Neva*.

The *Volga* is the largest river in Europe. The *Neva* is the outlet of the most important lake system of Europe, including Lakes *Ladoga*, *Onega*, and *Saima*. Extensive canals connect the rivers of the different slopes. (See *Europe*, 39-41.)

216. The **soil** is generally fertile, except the frozen regions of the north, and the *steppes* or treeless plains of the south-east.

The **climate** varies from warm temperate in the south to severely cold within the Arctic Circle. The extremes are greater than on the west coast of Europe.

217. The **minerals** are iron, copper, platina, and salt. Rich gold mines are found on the east side of the Ural Mountains. Salt is obtained both from mines and salt springs.

218. The central and south-western portions yield abundance of grain, flax, and hemp. The south also produces maize, the vine, olive, and mulberry. Between the parallel of 50° and the Arctic Circle are vast forests, in which bears, wolves, and wild boars are numerous. Wild horses roam over the steppes. (See *N. S. Reader*, No. IV.—“Russian Serf.”)

In a large forest of Polish Russia about fifteen hundred aurochs, a nearly extinct species of wild ox, are carefully preserved by the government.

219. The population is scattered, especially in the north. The land is owned principally by the nobles. The lower class, called serfs, including over one-third the population, are very ignorant, and were until recently bought and sold with the estates on which they lived. They were emancipated by the Czar in 1863.

The established religion is the Greek Church, of which the Czar claims to be the head.

Towns.—220. *St. Petersburg* (532,000), the capital, founded by Peter the Great, occupies low marshy ground near the mouth of the *Neva*. *Cronstadt*, on a small island 20 miles west of *St. Petersburg*, is strongly fortified, and a great naval station.

Riga (72,000), a fortified town on the Gulf of *Riga*, is one of the first commercial towns of Russia. *Helsingfors* and *Revel* are fortified towns. *Archangel*, near the mouth of the *Dwina*, was formerly the only port. Its harbour is frozen eight months in the year.

221. *Moscow* (368,000), the former capital, is a magnificent city, having a circuit of 26 miles. On a hill in the middle of the city stands the *Kremlin*, an assemblage of towers, ramparts, churches, and palaces, surrounded by a massive wall 60 feet high. One of the towers contains thirty-three bells, the largest weighing sixty-four tons. A much larger bell, 67 feet in circumference, lies unsuspended. Two-thirds of *Moscow* was burned in 1812, when the Russians set fire to it in order to deprive Napoleon of winter quarters.

Tula is noted for the manufacture of fire-arms.

222. *Nijni-Novgorod* is noted for its great fair, which continues for two months, and is attended by 250,000 people from the various countries of Europe and Asia. *Kiev* (60,000) was long the capital of Russia. *Kazan* (58,000) is an important depot in the trade with Siberia.

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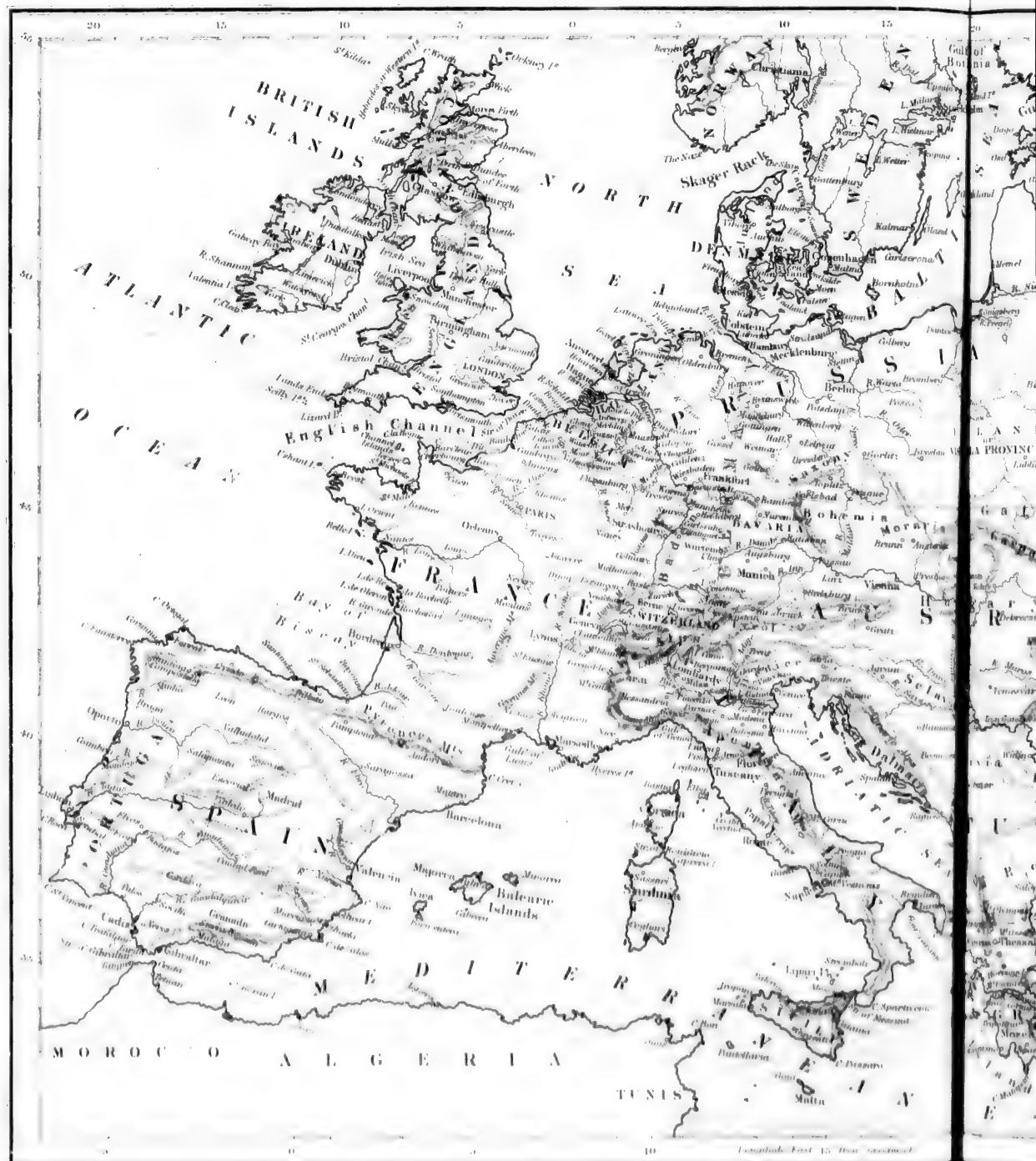
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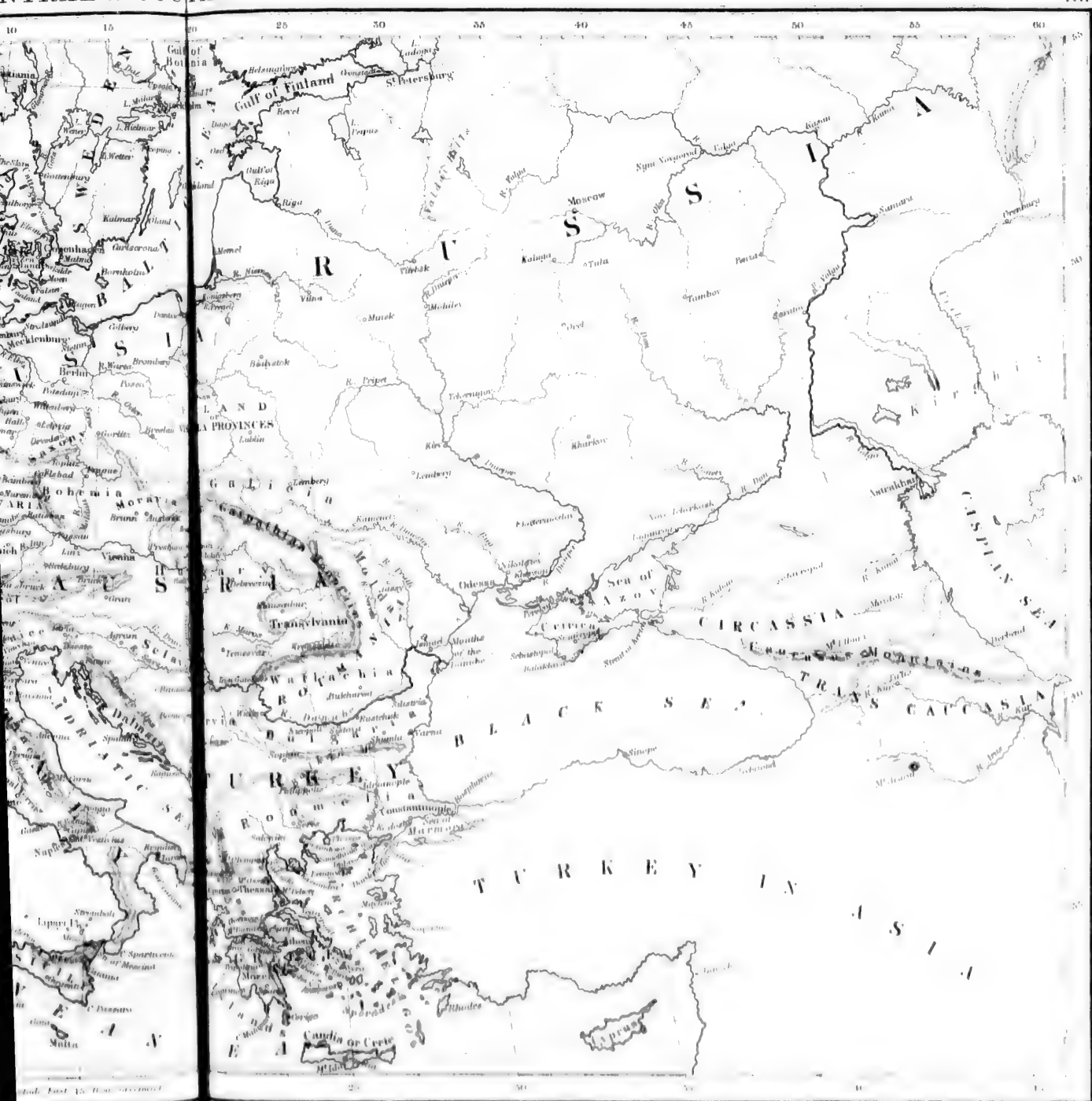
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Warsaw (161,000), on the Vistula, was the capital of Poland. *Vilna* (50,000) is an important commercial town of Poland. Nearly half its inhabitants are Jews.

223. *Odessa* (170,000), the most important port on the Black Sea, is strongly fortified. It exports grain, leather, and tallow. *Sebastopol*, in the Crimea, is noted for its siege in 1854 and 1855. *Nikolaiev* is a naval station. *Taganrog*, on the Sea of Azov, exports grain. *Astrakhan*, on an island at the mouth of the Volga, carries on an extensive trade with the countries of Asia.

224. The principal exports of Russia are grain, flax, hemp, timber, tar, iron, tallow, wool, and leather. The imports are manufactured goods, tea, and tropical produce.

An important overland trade is carried on with China.

225. The government is an absolute hereditary monarchy. The will of the Czar, or Emperor, controlled only by public opinion, is law.

The army numbers about 800,000 men. The naval force is comparatively small. The revenue is about \$90,000,000.

226. The Russian Empire is next to the British Empire the most extensive political division in the world. Besides the possessions in Europe, it includes nearly one-third of Asia. The total area is about 7,800,000 square miles, or equal to a square of 2800 miles. The population is estimated at 74,500,000.

Circassia lies along the northern slopes of the Caucasus. Its inhabitants, a finely formed and brave race, who struggled long for independence, have removed in large numbers to Turkey.

QUESTION.—A vessel sails from New Orleans to Liverpool in England, thence to Odessa, and thence to London; through what waters does she pass, and what are the freights?

PRUSSIA, INCLUDING NORTH GERMANY.

227. Prussia is supposed to take its name from a barbarous tribe called the *Borussii*, who lived near the mouth of the Vistula. This region was subjugated by the Teutonic Knights about the middle of the thirteenth century. It subsequently fell under the power of Poland, but became an independent duchy in 1657. It acquired the rank of a kingdom in 1701.

Frederick the Great, who came to the throne in 1740, made Prussia one of the leading powers of Europe. He greatly enlarged his dominions by the addition of Silesia and part of Poland. (See *Russia*, 211; and *Collier's Great Events*, pp. 125, 264-273.)

228. Until recently Prussia consisted of two portions, separated by small German States. Having gained a great victory over the Austrian and German forces in 1806, Prussia assumed the supreme power over the whole of Germany north of the Main.

The States recently incorporated with Prussia are Hanover, Hesse-Cassel, Hesse-Homburg, Nassau, Frankfurt-on-the-Main, Schleswig, Holstein, and Lauenburg. The following States are closely combined with Prussia: Oldenburg, Mecklenburg, Brunswick, Hesse-Darmstadt north of Main, Anhalt, Lippe, Waldeck, Saxony; the free cities Hamburg, Bremen, and Lübeck; and the Thuringian States.

229. Prussia is bounded, on the north, by the North Sea, Denmark, and the Baltic; east, by Russia; south, by

Austria and South Germany; west, by France, Belgium, and Holland.

230. The coast is low, varied by sand-hills. *Stettiner Hafl*, *Frische Hafl*, and *Curische Hafl* are lagoons, or shallow river estuaries, separated from the Baltic by narrow tongues of land. The extent of coast has been much increased by recent acquisitions. The principal island is *Rügen*, in the Baltic, once sacred to the goddess Hertha.

231. The surface in the north is low, embracing extensive sandy heaths, peat moors, and marshes. It rises gradually to the hilly and mountainous regions of the south.

The principal mountains are the *Sudetic*, *Riesen-gebirge*, and *Erz-gebirge*, between Prussia and Austria; and the *Hartz*, in Saxony and Hanover.

Brocken, the highest point of the Hartz (3540 feet), is noted for the magnified images of objects, called the *Spectre of the Brocken*, seen occasionally in the atmosphere at sunrise.

232. The rivers are of great advantage to internal commerce. The principal are the *Rhine* (*Moselle*, *Main*), *Ems*, *Weser*, *Elbe* (*Saale*, *Havel*, *Spree*), *Oder* (*Wartha*), *Vistula*, *Pregel*, and *Niemen*.

233. The soil is poor in the north, except in the river valleys. The most fertile parts are Silesia and the Rhine Provinces.

234. The climate is mild in the west, humid in the north, and cold in the north-east.

235. Almost all the useful minerals are obtained from the mountains. The shores of the Baltic have long been celebrated for amber, which is washed up by the waves.

236. The cultivated plants include all the products of cool, temperate countries. The vine is extensively cultivated along the Rhine.

Rhenish wines are celebrated for their superior quality. Pine-forests cover large portions of the sandy lowlands.

237. The inhabitants, mostly German, are distinguished for intelligence and industry.

Universities, normal schools, and common schools are numerous. Attendance at school is compulsory. The majority of the inhabitants are Protestants. All denominations have equal privileges.

Towns.—238. *Berlin* (546,000), on the Spree, is the capital and largest city. It has important manufactures, and is noted for its literary institutions. Its university is one of the most celebrated in the world. *Potsdam*, 18 miles from Berlin, is a principal station for the army, and contains the royal palace of *Sans-Souci*.

Breslau (145,000), on the Oder, has a great wool fair. *Frankfurt* is a manufacturing and commercial town.

239. *Dantzic*, a strongly fortified town near the mouth of the Vistula, is the most important port, and has a large foreign commerce. *Stettin*, at the mouth of the Oder; *Königsberg* (84,000), near the mouth of the Pregel; and *Memel*, on the Curische Hafl, export grain and other produce. *Stralsund* is noted for its siege in 1628. *Poznań* was the birth-place of Copernicus. *Poznań*, once the capital of Poland, exports grain, flax, and tobacco.

Magdeburg (79,000), a strongly fortified town on the Elbe, has important manufactures. *Wittenburg* is the place in which the Reformation began, in 1517. *Halle* is noted for its university.

240. *Hanover* (71,000), *Gottingen*, and *Embsen*, are the chief towns of Hanover. *Brunswick*, *Coburg*, and *Wiesbaden* are important towns. *Kiel* in Holstein, and *Flensburg* in Schleswig, are sea-ports.

Hamburg (176,000), on the Elbe, 70 miles from its mouth, is one of the first commercial cities on the continent. *Lubeck* once stood at the head of a confederation of free cities, known as the *Hanse Towns*. *Bremen* has a large trade. *Frankfort*, on the Main (72,000), was until recently the capital of the German Confederation. The last four cities were distinct States in the Confederation, and were called *free towns*.

Dresden (128,000), the capital of Saxony, is a beautiful city, noted for its library, museum, and picture gallery. *Dresden china* is made at *Meissen*, 14 miles distant. *Leipzig* is celebrated for its great fairs and book trade.

241. *Cologne* (120,500), the most commercial town on the Rhine, has a magnificent cathedral. Its ill-drained streets give rise to offensive odours. *Dusseldorf*, on the Rhine, exports the cotton and silk manufactures of *Barmen* and *Elberfeld*. *Coblenz*, at the confluence of the Rhine and Moselle, trades largely in Rhenish wines. The strong fortress of *Ehrenbreitstein* is on the opposite side of the river. *Treves*, on the Moselle, is noted for its Roman antiquities. *Aachen*, or *Aix-la-Chapelle*, is famous for its hot springs.

242. The chief **pursuits** are agriculture, grazing, manufacturing, mining, and commerce.

The **exports** are grain, flax, wool, linen, woollen cloth, pottery, wine, and zinc. Saxon wool is considered the best in Europe.

The **imports** are cotton, silk, fish, sugar, tea, coffee, and other tropical products.

243. The **government** is a hereditary monarchy, with a Parliament of two Houses. The King has hitherto exercised nearly absolute power.

Prussia consists principally of a confederation of German States.

The regular army numbers about 200,000, and is thoroughly drilled. Every man under forty years of age is liable to service in time of war. The navy is small.

Prussia and France are the leading and rival powers on the continent of Europe.

AUSTRIA.

244. The nucleus of this empire was a small archduchy called Austria, or the Eastern Government, from its position with respect to Germany. The empire is composed of various countries, some of which were once distinct and powerful nations.

245. Hungary, in the east, is still constitutionally an independent kingdom, attached to the crown of Austria. It was excited to a vigorous but unsuccessful struggle for separation in 1849, by the despotism of the Government.

The western provinces of Austria are within the bounds of Germany: the north-eastern were the Austrian share of the spoil of Poland. Lombardy and Venice have been surrendered to Italy.

246. The present dynasty of Austria, called the *House of Hapsburg*,

began with Albert I. in 1273. The Dukes of Austria were successively elected Emperors of Germany from 1437 to 1804, when Napoleon substituted the title Emperor of Austria. Under the constitution of Germany adopted in 1815, Austria presided at the Diet, until shorn of that honour by Prussia in 1866. (See 228, 345.)

247. Austria is bounded, on the north, by Prussia and Russia; east, by Russia and Turkey; south, by Turkey and the Adriatic; west, by Italy, Switzerland, and Bavaria.

The coast, confined to the east side of the Adriatic, is quite limited.

248. The **surface** is mountainous, particularly in the west. The principal mountains are the *Alps*, in the south-west; and the *Carpathians*, in the east and north.

Bohemia and Moravia are surrounded by mountains—the *Erzgebirge*, *Riesengebirge*, *Marische-gebirge*, and *Bohmerwald*.

On the north of the Carpathians is the plain of Galicia; on the south, the great plain of Hungary. (See *Europe*, 33.)

249. The **rivers** embrace the middle course of the *Danube*, with its tributaries the *Inn*, *Drave*, and *Sava*, from the south, and the *March*, *Waag*, and *Theiss*, from the north; and the upper courses of the *Elbe*, *Oder*, and *Vistula*.

250. The **soil** is generally fertile, but not very carefully cultivated. The plains of Hungary afford pasture for large numbers of cattle, horses, and sheep.

The **climate**, except on the mountains, is mild. The extremes are greater than in Western Europe.

251. The mineral resources are varied and valuable, embracing iron, copper, coal, quicksilver, lead, salt, gold, and silver. The salt mines near Cracow are considered the most extensive in the world.

252. The **agricultural** products include all the common grains. The wine grape and mulberry are extensively cultivated in the south. The wines of Hungary are celebrated.

253. The **inhabitants** belong to several different races. The principal are the German, in the west; Magyar or Hungarian, in the east; and the Slavonian, in the north-east. Jews are numerous.

The Germans are the most intelligent. Three-fourths of the inhabitants are Roman Catholics, but other denominations are tolerated.

Towns.—254. *Vienna* (500,000), the capital, is situated near the Danube. It is the great seat of manufactures and commerce, and has fine literary institutions. *Prague* (142,000), the chief city in Bohemia, has a celebrated university and extensive manufactures. *Triplitz* and *Karlsbad* are noted watering-places. *Brinn* (58,000), in Moravia, is the chief seat of the woollen manufactures. Twelve miles east is *Austerlitz*, the scene of a great battle in 1805.

255. *Linz* is a fortified town on the Danube. *Salzburg* is noted for its salt mines. *Graz* (63,000) has iron manufactures. *Adria* is an unhealthy place, with large quicksilver mines. *Trieste* (65,000), on the Adriatic, is the chief port and centre of foreign trade. *Innsbruck* has extensive woollen and silk manufactures. At *Trent* the celebrated Church Council was held from 1545 to 1563.

256. *Lemberg* (70,000), the largest city in Galicia, has a great

annual fair. *Cracow* (41,000), the ancient capital of Poland, has a fine cathedral, where many of the Kings of Poland were crowned and buried. Near the city is a mound 150 feet high raised in honour of Kosciusko, and composed of earth collected from all his battle-grounds.

257. *Buda* (55,000) and *Pesth* (132,000), on opposite sides of the Danube, form one city, the capital of Hungary. *Presburg*, on the Danube, was the ancient capital. *Komorn* is strongly fortified. *Tokay* and *Erlau* are famous for wines; *Schemnitz* and *Kremnitz* for gold and silver mines; *Debreczin* and *Klausenburg* for manufactures.

258. The chief pursuits are agriculture, mining, manufacturing, and commerce.

Manufacturing is most extensive in the German provinces.

The exports are grain, manufactures, minerals, lumber, and wine. The imports are cotton, tea, coffee, sugar, and other tropical produce.

259. The government is despotic, tempered with as much of constitutional form as circumstances make necessary to preserve the empire from dismemberment.

Severa! of the provinces have long been held only by military force. The Emperor has lately conceded to Hungary her ancient constitutional government. The army numbers from 400,000 to 600,000 men. The navy is small.

Austria occupies the lowest rank among the great powers. National bankruptcy and diversity of races in the various provinces of the empire are the chief sources of weakness. There is an increasing desire among the Slavonic population of the north-eastern provinces for union with Russia.

SOUTH GERMANY.

260. Germany, called *Deutschland* by the natives, although including many States, may be considered under three general divisions:—the *Prussian States*, in the north; the *Austrian States*, in the south-east; and South Germany, between the River Main and Switzerland.

For the first and second divisions, see *Prussia* and *Austria*.

261. Germany has been called the labyrinth of geographers. Composed of many small States, some in scattered fragments, some connected with non-Germanic States, it has for ages had a more involved political organization than any other part of the world.

262. Germany formed the eastern half of Charlemagne's empire. From 912 to 1805 the various States were leagued together for mutual defence, under a common elective head, styled the Emperor of Germany. This organization was broken up by Napoleon I. From 1815 to 1866 the Germanic Confederation consisted of thirty-five sovereign States. Each State had independent control over its internal affairs; whilst all matters pertaining to defence were managed by an assembly of representatives called the *Diet*, which was convened at Frankfurt-on-the-Main. The leading States were Austria and Prussia; next in rank were Bavaria, Wurtemberg, Hanover, Saxony, and Baden. Austria presided at the Diet.

Prussia having on different occasions attempted to form a new or-

ganization of Germany, has now succeeded in placing herself at the head of all the Northern States. (See *Prussia*, 228; *Austria*, 246.)

263. South Germany comprises the *Kingdoms of Bavaria* and *Wurtemberg*, the *Grand Duchy of Baden*, the southern half of *Hesse-Darmstadt*, and the *Principality of Liechtenstein*.

Liechtenstein, south of Lake Constance, is noted as the smallest German State—area, 63 square miles.

264. The surface of South Germany is elevated, and varied with table-lands, mountains, and dells.

The mountains are the *Böhmerwald*, in the east; the *Alps*, in the south; and the *Schwarzwald*, or *Black Forest*, in the west. The latter form the water-shed between the Danube and the Rhone.

265. The soil is generally very fertile; and the climate, except in the mountains, is mild. The products are grain, flax, hops, wine, and tobacco. The mountains afford fine pasture and timber.

266. Institutions of learning of all grades are numerous. Attendance at school is compulsory, and the inhabitants are intelligent. Manufacturing is extensively prosecuted.

The States have constitutional governments, and are leagued together for defence. They have also made a treaty, offensive and defensive, with Prussia.

267. *Bavaria* consists of two portions, separated by Baden and Wurtemberg. The western division, on the Rhine, is sometimes called the *Palatinate*. The total area is about one and a half times larger than Nova Scotia. The inhabitants are noted beer drinkers. Population, 4,690,000.

268. *Munich* (148,000), the capital, on a table-land at the foot of the Alps, has many fine public buildings. It is noted for the manufacture of telescopes and mathematical instruments. *Hohenlinden* is a village twenty miles east. *Nuremberg* (62,000), noted for its inventions in the mechanical arts, is an ancient town. The other important towns are *Augsburg*, *Spire*, *Ratisbon*, *Passau*, and *Hanberg*.

269. *Wurtemberg* is about one-fourth the size of Bavaria. Population, 1,783,000.

Stuttgart (50,000), the capital, has a beautiful situation, surrounded by hills clothed with vineyards. *Ulm* has a fine cathedral.

270. *Baden*, lying along the right bank of the Danube, is about one-third the size of Nova Scotia. From its beauty and fertility, it has been called the *Paradise of Germany*. Population, 1,370,000.

Carlsruhe (27,000), the capital, has thirty-two streets, all of which diverge like the rays of a fan from the ducal palace in the centre. *Baden-Baden*, with warm springs, is a noted watering-place. *Mannheim* has a large trade. *Heidelberg* has a beautiful situation. In the cellar of a ruined castle is the famous tun of Heidelberg, capable of holding eight hundred hogsheads of wine.

Darmstadt, *Mainz* (a strong military station), *Worms*, and *Bingen* are the chief towns in *Hesse-Darmstadt*.

HOLLAND,

OR THE KINGDOM OF THE NETHERLANDS.

271. The names of this country, signifying *lowlands*, are expressive of its physical character.

In the middle ages Holland and the adjoining kingdom of Belgium consisted of seventeen small States, among which Flanders and Brabant took the lead. In 1406 they became subject to the Duke of Burgundy, and subsequently were inherited by the House of Austria. From Charles V. of Germany the Netherlands passed to his son Philip of Spain.

272. Oppressed by tyranny and persecution, seven of the provinces, in 1579, asserted their freedom from the Spanish yoke, and formed the Republic of Holland, or the *Seven United Provinces*. The new republic, making rapid strides in prosperity, soon became the first commercial country in Europe, and its colonies were established in all parts of the world. Holland became a monarchy in 1747.

Holland is still a prosperous country, but its relative importance has greatly declined. (*See Collier's Great Events*, p. 198.)

273. Holland is bounded on the north and west by the North Sea; on the east by Prussia; and on the south by Belgium.

The **coast** in some parts is below the level of the sea, in others it is skirted by broad sand-hills raised by the winds and waves.

274. The **rivers** Schelde, Meuse, and Rhine enter the sea by various channels, and their broad estuaries enclose several islands. The *Zuyder Zee* is a gulf extending 45 miles inland, formed by an irruption of the sea nearly six hundred years ago. Off its mouth is a chain of small islands. The *Laower Zee* and the *Dollart* are gulfs formed in a similar manner.

By a violent storm, in the early part of the fifteenth century, the sea was driven up the estuary of the Meuse, seventy-two villages were destroyed, and 20,000 people lost their lives.

275. The **surface** of Holland is remarkably low and level. The only hills are the sand-banks on some parts of the coast.

The country is protected from inundation along the low coasts and rivers by dikes, in some cases 60 feet high. These dikes are closely watched, and a break is promptly repaired. On the dikes, which intersect the country in all directions, are canals, often bordered with rows of trees, and serving the double purpose of navigation and drainage. Crowds of skaters cover the canals in winter. The lands enclosed within the dikes, called *polders*, are drained by pumps, generally worked by windmills. Many small lakes have been drained in a similar manner.

276. The **soil** is rich, and carefully cultivated. The **climate** is very humid, and the bright days in the year are few. In winter the cold is severe.

The **products** are rye, oats, buck-wheat, grass, flax, and abundance of garden vegetables. The pastures are excellent,

horses and cattle are reared in great numbers; there are no forests.

277. The **inhabitants** are called Dutch, and are noted for intelligence, industry, enterprise, and cleanliness. About two-thirds are Protestants, and one-third Roman Catholics.

Towns.—278. The *Hague* (82,000), between two arms of the Rhine, near the North Sea, is the capital. It is a beautiful city. *Amsterdam* (263,000), the commercial capital, is on an inlet of the *Zuyder Zee*, called the *Y*. It occupies marshy ground, and the houses are built on piles driven deep into the earth. Canals supply the place of streets. *Rotterdam* (111,000), on the Meuse, is also a great commercial city.

279. *Schiedam* is noted for its gin. *Utrecht*, noted for treaties, has extensive woollen manufactures. *Leyden* has a fine university. As a reward to the inhabitants of *Leyden* for their heroism in resisting the Spaniards in 1573, the Prince of Orange offered to found a university in the city, or to free them from taxes. They chose the former. The other important towns are *Haarlem* (noted for its organ), *Bois le Duc*, *Groningen*, and *Maestricht*.

280. The manufactures include paper, linens, woollens, silks, leather, and gin. Machinery is driven principally by windmills. Fishing is an important pursuit. The commerce is extensive. A large trade is carried on with the Dutch colonies in the East Indies.

The **exports** include dairy products, live stock, fish, clover-seed, gin, and manufactures. The **imports** are lumber, stone, coal, tea, sugar, spices, and other tropical products.

281. The **government** is a limited monarchy. The legislature, called the *States-General*, consists of two Chambers.

The revenue is about \$35,000,000. The army numbers about 60,000 men.

282. The **foreign possessions** of the Netherlands are extensive, including settlements on the west coast of Africa; Java, Sumatra, and other islands in the East Indies; Dutch Guiana; and Curaçoa and St. Eustatius in the West Indies. Total area equal to a square of 830 miles. Population, 18,000,000.

283. **Dutch Luxembourg**, south-east of Belgium, is a German grand duchy, given to the King of the Netherlands in 1814. It contains the town of *Luxembourg*, one of the strongest fortresses in Europe.

QUESTION.—A ship sails from Amsterdam to Batavia in Java, and back; through what waters would she pass, and what freights would she carry?

BELGIUM.

284. Belgium is closely connected with Holland in its early history.

The ten provinces of the Netherlands which now form this kingdom remained under Spain until 1714, when they were ceded to Austria. During the French Revolution they were annexed to France. On the downfall of Napoleon, Belgium and Holland were united as the Kingdom of the Netherlands. This union being distasteful to the Belgians, they withdrew in 1830, and established an independent monarchy under Leopold of Saxe-Cobourg.

Belgium is one of the most flourishing small kingdoms of Europe. From the numerous battles fought within its bounds, it has been called the battle-field of Europe.

285. Belgium is bounded on the north-west by the North Sea; on the north by Holland; on the east by Prussia and Luxembourg; and on the south-west by France.

The coast is fringed with sand-hills, and is about 40 miles in length.

286. The surface in the north-west is low and level, like Holland; in the south-east it is more elevated and rugged.

The principal rivers are the *Schelde* and *Meuse*. The soil is rendered so productive by careful cultivation, that Belgium has been called the garden of Europe. The climate is temperate and humid.

287. The mineral treasures in the south-east are varied and great. Coal and iron are abundant. The other minerals are zinc, lead, manganese, marble, and slate.

The agricultural products are grain, flax, hops, sugar beet, culinary vegetables, and grasses. Horses, cattle, and sheep are reared in large numbers.

288. The population is more dense than in any other country, giving an average of 417 to the square mile.

The Belgians are intelligent and industrious. They are famed for skill in music, painting, and architecture. Nearly all are Roman Catholics; but other denominations are tolerated.

Towns.—289. *Brussels* (182,000), the capital, on the Senne, is one of the handsomest towns in Europe. It has extensive and varied manufactures. Its lace and carpets are celebrated. Seven miles south is the battle-field of Waterloo, where Napoleon was defeated in 1815.



MONUMENTS ON WATERLOO.

Antwerp (114,000), on the *Schelde*, is the chief commercial city, and contains a splendid cathedral. *Liege* (120,000), is the chief seat of the cotton manufactures. In its environs are four hundred green-houses.

Bruges, deriving its name from its numerous bridges, was once a great commercial town. *Ostend*, the only maritime town, is strongly fortified. *Liege*, in the mining district, has very extensive iron manufactures. *Namur*, *Mons*, *Tournay*, *Mechlin*, and *Verviers* are important towns.

290. Belgium is one of the greatest manufacturing countries in the world, producing carpets, lace, cottons, woollens, linens, fire-arms, engines, and cutlery.

The exports are manufactures, coal and other minerals, flax, dairy produce, and live stock. The imports are grain, cotton, dye stuffs, tea, and tropical produce. The rivers, canals, and railways of Belgium afford unrivalled advantages for inland trade.

291. The government is a constitutional monarchy. The legislative power is vested in the King, Senate, and House of Representatives.

The regular army numbers about 80,000. The Duchies of *Limburg* and *Lucembourg* belong partly to Belgium and partly to Holland.

FRANCE.

292. France, anciently a Roman province called Gaul, obtained its present name from the Franks, who came from Germany in the fifth century. The Frankish monarchy was established by Clovis, 486 A.D.

The most distinguished monarch of France, in early times, was Charlemagne, whose empire included France, Germany, and Italy 768-814. During the Middle Ages many fierce wars were waged between France and England, particularly in the reigns of Edward III., Henry V., and Henry VI.

293. In recent times, France has been the scene of three revolutions 1789, 1830, and 1848. During the first revolution, Louis XVI. and his queen Marie Antoinette were beheaded; the monarchy was succeeded by a republic; and it again by the empire of Napoleon I. In 1830, Charles X. was dethroned, and the crown was given to Louis Philippe. In 1848, Louis was deposed, and a republican government was organized; which in its turn yielded to the imperial rule of Napoleon III. in 1852.

294. France is bounded on the north by the English Channel and Belgium; east, by Germany, Switzerland, and Italy; south, by the Mediterranean and Spain; west, by the Bay of Biscay.

295. The coast line is about 1500 miles in length. The most important inlets are *St. Michael's Bay*, the *Bay of Biscay*, and the *Gulf of Lyons*. *La Hague* is the principal cape, and *Corsica* the most important island.

The Island of Corsica, noted as the birth place of Napoleon I., is rather larger than Cape Breton. The interior is mountainous.

There are several small islands on the coast of France, as *Hyères*, *Bellevue*, *Ré*, *Oleron*, and *Ushant*.

296. The surface is generally level or undulating. The greater part of the country has a westerly slope. The highest mountains are on the borders, the *Pyrenees* separat-



GRAPE-GATHERING.

ing France from Spain; the *Alps*, between France and Italy; and the *Jura*, between France and Switzerland.

Towards the east are several low mountain ranges, including the *Vosges*, *Cevennes*, and *Auvergne*. *Mont Blanc*, *Little St. Bernard*, and *Cenis* are border peaks of the Alps.

297. The principal rivers are the *Rhine* (*Meuse*, *Moselle*), *Rhone* (*Saone*), *Adour*, *Garonne*, *Loire*, and *Seine*.

By means of its rivers France has 5500 miles of internal navigation, which is increased by canals to 8500.

298. The soil is generally fertile. The climate is, for the most part, exceedingly mild and delightful. (See *Europe*, 45, 46.)

The chief minerals are coal, iron, lead, and manganese. The yield of coal and iron is not equal to the consumption.

299. The agricultural products include the common grains, the vine; sugar beet, tobacco, olive, and mulberry. Oranges and lemons grow in the south.

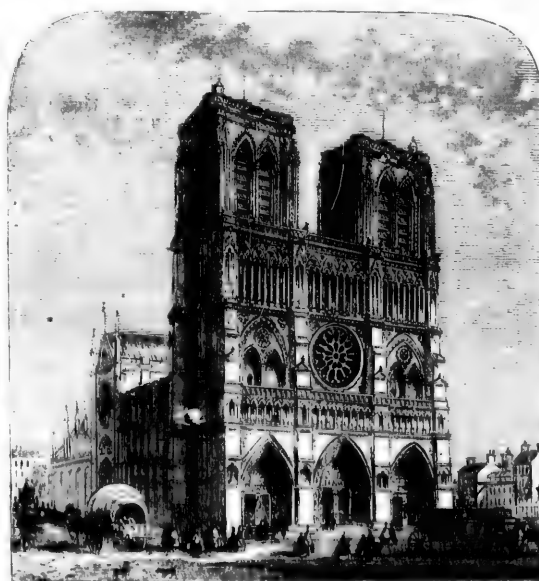
The vine has been extensively cultivated for ages. The mulberry was introduced in the fifteenth century. There are large forests of oak, beech, chestnut, and pine, in which bears, wolves, wild boars, and the chamois are numerous.

300. The inhabitants are mainly Celtic, with some admixture of the Teutonic race.

The French are fond of show and pleasure. The peasantry are very ignorant; but the higher classes are well educated. The great bulk of the people are Roman Catholics; but Protestants are tolerated.

Towns.—301. *Paris* (1,700,000), the capital, occupying both banks of the *Seine*, 100 miles from its mouth, is the second city of Europe in population, and the first in splendour. It contains a university

attended by 7000 students, a library with 1,800,000 volumes, and rich collections of painting and sculpture. Among the fine buildings are the *Tuileries* and *Notre Dame Cathedral*. The Parisians are



NOTRE DAME, PARIS.

models of politeness and fashion. In the environs are *Versailles*, noted for its splendid palace; *Sevres*, famed for its porcelain; and *Fontainebleau*, for its forest.

302. *Cherbourg*—with a great breakwater and strongly fortified—*Brest*, *L'Orient*, *Rocheport*, and *Toulon* are the chief naval stations; *Le Havre*, at the mouth of the Seine, is the greatest commercial port of the north; *Marseille* (219,000) is the most important in the south. The other important ports are *Dunkirk*, strongly fortified; *Calais*, long owned by the English; *Boulogne*; *Dieppe*; *St. Malo*; *La Rochelle*, once a stronghold of the Huguenots; and *Nice*.

303. *Lyons* (300,000), at the confluence of the Rhone and Saone, is the greatest manufacturing town, including silks, cottons, woollens, and jewellery. The following are important manufacturing towns:—*Lille*, strongly fortified; *Valenciennes*; *Cambrai*; *Amiens*; *Rouen*, with a fine cathedral; *Toulouse*; *Nîmes*, noted for antiquities; *Besançon*; *Colmar*; *Mulhausen*; *Nancy*; *Rheims*, noted for its cathedral; *Metz*; *Tours*; *Limoges*; *Moulins*; *St. Etienne*; *Nantes* (108,000); and *Grenoble*.

304. *Strasbourg*, near the Rhine, is strongly fortified, and has a cathedral with a spire 466 feet high. *Bordeaux* (149,000), on the Garonne, trades largely in wines, brandy, and dried fruit. *Bayonne* is noted as the place where bayonets were first made. *Montpellier* is the great resort of invalids. *Avignon* was the residence of the Popes in the fourteenth century. *Chamouni*, in Savoy, is a village at the foot of Mont Blanc. *Ajaccio* and *Bastia* are the chief places in Corsica.

305. The leading **industries** are agriculture, manufacturing, and commerce.

France ranks next to Britain in manufactures and commerce.

The chief exports are wines, brandy, silks, cottons, gloves, lace, olive oil, and preserved fruits. The imports are cotton, coal, tea, sugar, and tropical produce.—Total value of exports, \$377,000,000.

306. The **government** is constitutional in form, but the Emperor has almost absolute power.

France is probably the first military power in Europe, as the army, though not the largest, is very effective. It numbers about 500,000 men. The naval force ranks next to that of Great Britain. The revenue is about \$370,000,000.

307. The **foreign possessions**, taken together, have an area about one and a half times greater than the home territory, and a population of 8,000,000. The principal are:—

In America, *French Guiana*, *Guadeloupe*, *Martinique*, and some others of the West Indies; *St. Pierre* and *Miquelon*, on the coast of Newfoundland:

In Africa, *Algeria*, *Senegal*, and the *Island of Reunion*:

In Asia, a maritime district in Cochin China, *Pondicherry* and other small territories in Hindostan:

In Oceania, the *Marquesas*, *New Caledonia*, and *Tahiti*.

QUESTION.—A vessel sails from Halifax to the West Indies; thence to France; and thence to St. John: what freights would she carry?

SWITZERLAND.

308. Switzerland, anciently called Helvetia, derived its present name from the canton of *Schweitz*, which took a leading part in freeing the country from the Austrian yoke, in the beginning of the fourteenth century.

The Swiss were aroused to assert their independence, by the tyranny



CHAMOIS HUNTING.

of Albert, Duke of Austria; and Gesler, the Austrian governor. Gesler was slain by the patriot William Tell. (*See Collier's Great Events*, p. 123.)

309. Switzerland is bounded on the north by Germany; on the east by Austria; on the south by Italy; and on the west by France.

The country is wholly inland, and is one of the smallest States of Europe. Extreme length, 200 miles; breadth, 150 miles.

310. The **surface** is greatly diversified by mountains, valleys, plateaus, snow-fields, glaciers, lakes, and streams. The southern half of the country is in the lofty *Alpine* region. The *Jura Mountains* are on the west.

Mont Blanc is on the French border; *Rosa* and the *Matterhorn* are between Switzerland and Italy. Other important peaks are *St. Gothard*, *Jungfrau*, *Finster-Aar-Horn*, and *Schreckhorn*. The mountains are in some places cleft by gorges several thousand feet in depth.

311. The higher mountains are covered with perpetual snow, which sometimes descends in immense avalanches into the valleys. Land-slips also occur sometimes. Whole villages have thus been buried many feet in earth and rocks. In summer, the glaciers, creeping down the elevated valleys, contrast strangely with adjacent orchards and grain fields. (*See Europe*, 30.)

312. Many rivers, as the *Rhine*, *Aar*, *Inn*, *Rhone*, and *Ticino*, have their origin in the Alpine glaciers.

The lakes, *Geneva*, *Neuchâtel*, *Constance*, and others, are noted for their beauty.

313. The **soil** capable of tillage, which forms but a small proportion, is carefully cultivated.

The **climate** and products vary with the elevation.

The lower grounds and valleys yield the vine, the common grains, potatoes, and various fruits. Extensive mountain pastures sustain great numbers of cattle, sheep, and goats. (See *Physical Geography*, 115.)

314. The Swiss are brave, industrious, and intelligent. It is rare to meet with a person who cannot read and write.

About three-fifths of the inhabitants are Protestants; the remainder, Roman Catholics.

Towns.—315. Switzerland consists of twenty-two independent States, called *Cantons*.

There are but nine towns in Switzerland which have over 10,000 inhabitants. These are Berne, Fribourg, Lausanne, Geneva, Neuchâtel, Basle, Lucerne, Zurich, and St. Gall.

Berne (29,000), on the Aar, is the seat of the Federal Diet. *Lausanne* has a beautiful situation on Lake Lemán. *Geneva* (41,000), at the efflux of the Rhone from Lake Lemán, is the largest city. It is noted for its manufactures of watches and jewellery. Many illustrious men have resided here at different times. *Basle* is at the head of steam navigation on the Rhine. *Zurich* has been called the Athens of Switzerland. *Altorf* is noted as the place where Tell shot the apple from his son's head.

316. The leading **industries** are agriculture, grazing, and manufacturing.

The most important manufactures are watches, jewellery, cheese, silks, and cottons, which form the chief exports.

317. The **government** is a federal republic. The standing army numbers about 80,000 men. Revenue, \$5,000,000.

SPAIN.

318. Spain formed a Roman province under the name of *Hispania*. In 711, the greater part of the peninsula was subjugated by the Mohammedans. The Moorish or Mohammedan kingdom was, in 1027, broken into a number of petty states, which gradually yielded to the rising power of the Christian kingdoms of Portugal, Aragon, and Castile. The Mohammedans were expelled from Spain by Ferdinand and Isabella in 1492. These sovereigns by their marriage united the kingdoms of Aragon and Castile, and laid the foundation of the Spanish monarchy.

319. Under the patronage of Ferdinand and Isabella, Columbus discovered America. Spain, with her vast colonial possessions, now became one of the richest and most powerful States of Europe. She held beneath her sway Mexico, Central America, two-thirds of South America, and the Netherlands. By misgovernment and tyranny she drove her colonies to rebellion, and she has now dwindled to a second-rate power.

320. Spain is bounded on the north by the Bay of Biscay



BULL FIGHT.

and the Pyrenees; east and south by the Mediterranean; west by Portugal and the Atlantic.

The **coast** is generally bold and regular. The principal capes are *Creuse*, *Nau*, *Palos*, *Gata*, *Torifa*, *Trafalgar*, *Finisterre*, and *Ortega*. (See *Collier's British History*, p. 300.)

The principal islands are the *Balearic*, embracing *Majorca*, *Minorca*, *Iviza*, *Formentera*, and *Cabrera*, with a united area equal to two-thirds of Cape Breton. Products—wine, olives, and flax.

321. The **surface** of Spain is greatly diversified. The interior consists of a rugged table-land from 2000 to 3000 feet high, sloping rapidly towards the Mediterranean and more gently towards the Atlantic. There are several mountain ranges extending east and west. (See *Europe*, 37, 38.)

The principal rivers are the *Minho*, *Douro*, *Tagus*, *Guadiana*, *Guadalquivir*, *Elro*, *Guadalquivir*, *Xucar*, and *Segura*.

322. The **soil** is generally good, but badly cultivated.

The **climate** on the coast and in the valleys is very hot. The table-lands are subject to drought and scorching heat in summer, and severe cold in winter.

323. Spain is rich in **minerals**, including silver, iron, lead, quicksilver, rock-salt, and coal. Through want of enterprise in the inhabitants, the mineral wealth is largely undeveloped.

324. The cultivated **plants** include the vine, olive, fig, mulberry, wheat, rice, and sugar-cane. The forests contain the cork-tree, evergreen oak, and chestnut. The palm grows in the south.

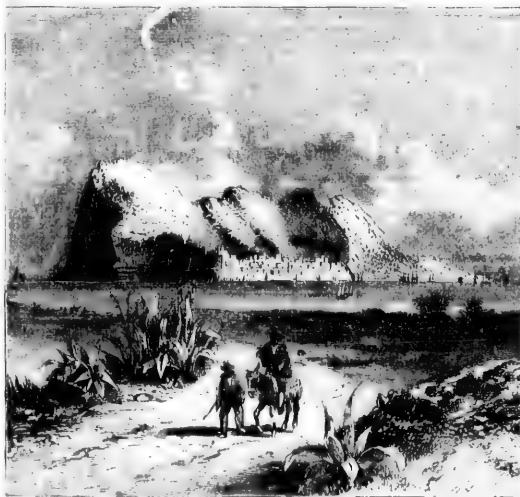
Large numbers of horses, mules, and sheep are pastured on the table-lands. The sheep are noted for the fineness of their wool.

325. The **inhabitants** are few in comparison with the size of the country. They are generally very ignorant. Beggars and robbers are numerous. The bull fight is a cruel but favourite national sport. The Roman Catholic religion prevails exclusively.

Towns.—326. *Madrid* (302,000), the capital and largest city, is situated on a dry and barren plateau in the interior. It contains one of the finest picture galleries in the world. About thirty miles to the north-west is the Escorial, a famous palace, nearly a mile in circuit.

Barcelona (252,000), on the Mediterranean, is the first city of Spain in manufactures and commerce. *Valencia* (145,000), is noted for its silks; *Murcia* (109,000), for nitre and gunpowder. *Cartagena* is an ancient city with a fine harbour and a naval arsenal. *Malaga* (113,000) exports wines and raisins. *Granada* (100,000), *Seville* (152,000), and *Cordova* (160,000), were noted Moorish capitals. Near Granada is the Alhambra, a famous palace of the Moorish kings.

327. *Cadiz*, a fortified city on the Isle of Leon, is a large commercial city. A few miles inland is *Xeres*, where sherry wine is extensively manufactured. *Corunna*, a fortified port, contains the tomb of Sir John Moore. *Ferrol* is a naval arsenal. *Bilbao* is an important port. *San Sebastian* is strongly fortified. *Saragossa* is a large city on the Ebro. *Valladolid*, *Salamanca*, and *Santiago de Compostella* have universities. *Segovia* is noted for its Roman aqueducts. *Toledo* was long famous for its sword blades. *Palma*, on Majorca, contains a large palace once occupied by the Inquisition.



GIBRALTAR.

328. *Gibraltar* (15,000), on a projecting rock, has belonged to Great Britain since 1704. Its fortress, considered the strongest in the world, is 1500 feet above the sea. The chief importance of the town arises from its commanding position at the entrance of the Mediterranean.

329. The chief **industries** of Spain are agriculture, grazing,

and mining. Manufactures and commerce are greatly neglected.

The principal **exports** are wines, brandy, olive oil, raisins, lemons, oranges, cork, wool, quicksilver, lead, and salt;—value, \$15,000,000.

330. The **government** is a constitutional monarchy.

The army numbers about 200,000 men; but it is not well disciplined. The navy, once the strongest in the world, is insignificant. Revenue, \$100,000,000.

331. The foreign possessions are *Ceuta* and *Tetuan*, on the north coast of Morocco; the *Canary Isles*, *Fernando Po*, and *Annabona*, on the west of Africa; *Cuba*, *Porto Rico*, the east of *Haiti*, and some small islands, in the West Indies; and part of the *Philippine* and *Ladrone Islands*, in Oceania;—total area equals two-thirds the home territory. Population, 4,746,000.

PORTUGAL.

332. Portugal corresponds nearly with ancient Lusitania. Its early history is closely connected with that of Spain. It became an independent monarchy in 1139.

Portugal took a leading part in the discoveries of the fifteenth century, and thus obtained vast colonial possessions. Her navigators discovered Madeira, the Azores, and Brazil, explored the west coast of Africa, doubled the Cape of Good Hope, and discovered the maritime route to the East Indies.

From 1580 to 1640, Portugal was subject to Spain. Since the latter date, the throne has been held by the House of Braganza. (See *South America*, 72.)

333. Portugal lies between Spain and the Atlantic Ocean, from the mouth of the Minho to the mouth of the Guadiana.

The coast is in some parts low and marshy; in others, bold and rocky.

Cape Roca is the most westerly point of Europe. Off *Cape St. Vincent* Jervis and Nelson defeated the Spanish fleet in 1797.

334. The *Azores*, 800 miles west of the mainland, consist of a number of small islands, having a united area equal to one-fourth of Cape Breton, and a population of 241,000. The islands are volcanic and elevated. They are very fertile, yielding wine, sugar-cane, tobacco, and oranges.

335. The **surface** of Portugal is elevated in the interior, especially towards the north.

The chief **rivers** are the *Minho*, *Douro*, *Mondego*, *Tagus*, and *Guadiana*. Most of them take their rise in Spain.

336. The **soil** is fertile, but agriculture is in a very backward state.

The **climate** is mild and healthful. The rainfall on the coast is very great during the winter months. Violent earthquakes have sometimes occurred in Portugal. (See *Europe*, 46.)

Iron, copper, lead, and other minerals are plentiful. The agricultural products are similar to those of Spain. Mules, sheep, and goats are numerous.

337. The **inhabitants** are temperate, polite, and indolent; fond of music, dancing, and bull-fights. The lower classes are ignorant, superstitious, and miserably poor. The only religion is the Roman Catholic.

Towns.—338. *Lisbon* (275,000), the capital, is on the estuary of the Tagus. It was visited by an earthquake in 1755, when 50,000 persons lost their lives. *Oporto* (80,000), near the mouth of the Douro, exports large quantities of wine, and manufactures hats, silks, and linens. *Coimbra* is the seat of the only university. *Braga, Setubal, Evora,* and *Elvas* are important towns. *Angra* is the capital of the Azores; *Ponta Delgada* (16,000) is the largest town.

339. The **industries** are similar to those of Spain.

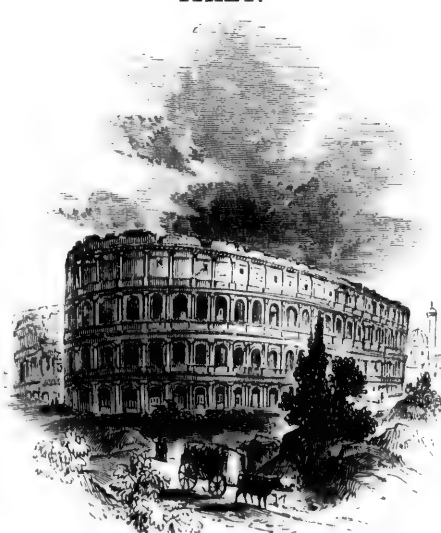
The principal exports are wine, brandy, olive oil, oranges, lemons, and silk;—value, \$20,000,000. The public roads in the interior are very bad.

340. The **government** is a constitutional monarchy, in which the power of the crown is greatly restricted.

The army numbers about 24,000 men. The revenue is about \$15,000,000.

341. The foreign possessions are the *Madeira Isles*, *Cape Verde Isles*, *St. Thomas*, and *Prince's*, on the west coast of Africa; the districts of *Congo*, *Angola*, and *Benguela*, in the west of Africa, and *Mozambique*, in the east; *Goa*, and other small stations, in India; *Macao*, in China; *Timor*, and other small places, in Malaysia. Area, about seven times the extent of the home territory; population, 2,346,000.

ITALY.



COLOSSEUM.

342. The Kingdom of Italy has been organized since 1859, by the combination of various small States.

Since the dissolution of the Roman Empire, in 476, Italy has been the

scene of many political changes. The Lombards established the kingdom of Lombardy in the north in 568. The Papedom was established in the centre of Italy about the middle of the eighth century. The greater part of the country was included in Charlemagne's empire, and it was subsequently annexed to Germany.

343. During the middle ages, Northern Italy comprised a large number of independent republic cities, the more important of which were *Venice*, *Genoa*, *Florence*, *Pisa*, *Bologna*, *Milan*, *Cremona*, and *Pavia*. They were noted for commercial enterprise, and for the animosity with which they waged war with each other.

344. Napoleon I. made the States of Northern Italy dependencies of France, and gave Naples to his general, Murat. The Congress of Vienna, in 1815, divided Italy into the following States:—The *Kingdom of Sardinia*; *Austrian Italy*, including Lombardy and Venetia; the *Grand Duchy of Tuscany*; the *Papal States*; the *Kingdom of Naples and Sicily*; the *Duchies of Parma, Lucca, and Modena*; and the small *Republic of San Marino*.

345. In the recent organization of Italy, Sardinia has formed the nucleus to which the other States have been annexed. Austria, defeated by France and Sardinia in 1859, gave up Lombardy; and again defeated by Prussia and Sardinia in 1866, she yielded Venetia. In 1860, Naples and Sicily were added, through the victories of Garibaldi; and all the other States, except a small portion of the Pope's territory, annexed themselves voluntarily. Savoy and Nice, lying west of the Alps, were ceded to France.

346. Italy is separated from France, Switzerland, and Austria by the Alps. A large part of the kingdom is comprised within the boot-shaped peninsula between the Adriatic and the Mediterranean. It also includes the important islands of *Sicily* and *Sardinia*.

347. *Sicily*, separated from the mainland by the Strait of Messina, is about three and a half times the size of Cape Breton, and is the largest island in the Mediterranean. Mount Etna, in the east, is one of the most remarkable volcanoes in the world. Sicily is very fertile, yielding grain, vines, and olives. Population over 2,000,000. The *Lipari Islands*, on the north of Sicily, are a cluster of small volcanic islands, one of which, *Stromboli*, containing an active volcano, is called the light-house of the Mediterranean.

348. *Sardinia* is about half the size of Nova Scotia. The interior is mountainous. There are extensive marshes on the coast. The climate is insalubrious. The products are similar to those of Sicily. Population, 553,000. *Capriera*, a small island off the north-east coast of Sardinia, is noted as the residence of Garibaldi. *Elba*, separated from the coast of Tuscany by the Strait of Piombino, is 18 miles in length. It was assigned to Napoleon in 1814 by the Allied Powers.

349. The **surface** of Italy is diversified with mountain, plain, and valley. The *Alps* curve around the northern frontier, and the *Apennines* extend the whole length of the peninsula. (See *Europe*, 31, 32, 35, 36.)

There are many beautiful and fertile valleys in Italy.

In the north, between the Alps and the Apennines, is the extensive and level plain of Piedmont, Lombardy, and Venetia, watered by the *Adige* and the *Po*, and of unsurpassed fertility. Along portions of the coast are extensive, low, marshy tracts, covered with rank vegetation, and exhaling pestilential malaria. The most important are the *Maremma*, *Campagna*, and *Pontine Marshes*, between the Island of Elba and the Gulf of Gaeta.

350. The chief **rivers** are the *Po*, *Ticino*, *Adige*, *Arno*, *Tiber*, and *Volturno*.

The *Po* has for ages brought down immense quantities of earth. The town of *Adria*, a sea-port at the Christian era, is now 15 miles inland. The bed of the river has also been so much raised in some places, that huge dikes are built to keep the water in the channel.

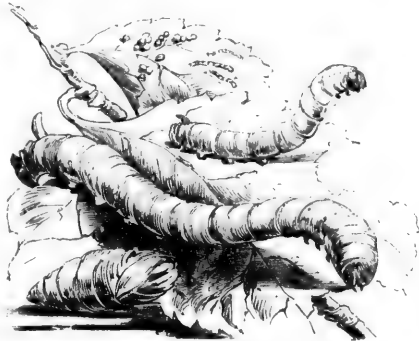
At the foot of the Alps are the beautiful lakes *Maggiore*, *Como*, and *Garda*.

351. The **climate** is delightful and salubrious, except in the coast marshes, which are uninhabitable in the hot season.

Italy is noted for its clear blue sky. The south is subject to earthquakes, and to a hot wind called the *sirocco*, which blows from Africa.

352. The **minerals** are iron, sulphur, borax, and marble.

The **vegetable** products include wheat, maize, the vine, mulberry, and olive.



MULBERRY AND SILK-WORM.

Rice is cultivated in the low river valleys; cotton, sugarcane, oranges, and dates, in the south.

Among the domestic **animals** are large herds of cows. In the south, noxious scorpions and tarantulas are numerous.

353. The **inhabitants** are nearly all Roman Catholics. They are noted for their skill in music, painting, and architecture. Except in the north, the common people are ignorant and indolent. Notwithstanding the genial climate and fertile soil of the centre and south, in no country are there more beggars. Brigandage renders travelling unsafe in many localities. Education is rapidly progressing.

Towns.—354. *Florence* (115,000), the capital of the Kingdom of Italy, is on the *Arno*, 50 miles inland. It is noted for its palaces and churches of the middle ages, and for its galleries of art. *Pisa* contains many fine buildings, and has a remarkable leaning tower. *Leghorn* (96,000) is the chief sea-port of Tuscany.

Turin (204,000), the former capital of Sardinia, is noted for its churches, literary institutions, and silk manufactures. *Genoa* (128,000) has a fine harbour, and is strongly fortified. Its manufactures and trade are extensive. *Alessandria* is strongly fortified.



LEANING TOWER OF PISA.

355. *Milan* (219,000), with extensive manufactures and trade, is a walled city containing splendid churches and palaces. *Magenta* and *Solferino* are noted as places where the Austrians were defeated in 1859. *Pavia*, *Brescia*, *Bergamo*, *Como*, *Parma*, *Piacenza*, *Modena*, *Reggio*, and *Lucca* are important towns.

Venice (118,000), once at the head of a powerful republic, and the greatest commercial port in the world, is built on seventy-two islands in a lagoon. Canals serve the place of streets. *Venice* is the birth-place of Canova, the great sculptor. *Mantua* is the birth-place of Virgil. *Padua*, *Verona*, and *Vicenza* are important towns.

Bologna (109,000), is the seat of an ancient university. *Ferrara* was once a great commercial town. *Ravenna* contains the tomb of the poet Dante, and many interesting remains of medieval art. *Ancona* is a sea-port; *Perugia* is an ancient city.

356. *Naples* (447,000), the largest city in Italy, has a beautiful situation on the Bay of Naples. Its streets are crowded with thieves and lazaroni, or beggars. A few miles distant are the partially excavated remains of *Herculaneum* and *Pompeii*, which were buried by an eruption of *Vesuvius* (A.D. 79). *Gata* is a fortified sea-port. *Capua* is also strongly fortified. *Taranto* was once of great importance.

357. *Palermo* (194,000), the capital of Sicily, is a great commercial city, founded by the Phœnicians. It was the scene of the massacre of the "Sicilian Vespers" in 1282. *Messina* (103,000) has a fine harbour and an extensive commerce. Near the shore is the famed whirlpool of *Charybdis*; and nearly opposite, on the Italian side, are the rocks of *Seylla*. *Catania*, at the foot of *Etna*, has suffered greatly from earthquakes. *Trapani* is engaged in the coral fishery; *Marsala* exports wines; *Girgenti* exports sulphur.

Cagliari is the capital of the Island of Sardinia. *Sassari* is an important town.

358. The leading **industries** are agriculture and grazing. Manufacturing is of considerable importance in the north, embracing silks, braided straw, artificial flowers, and kid gloves.

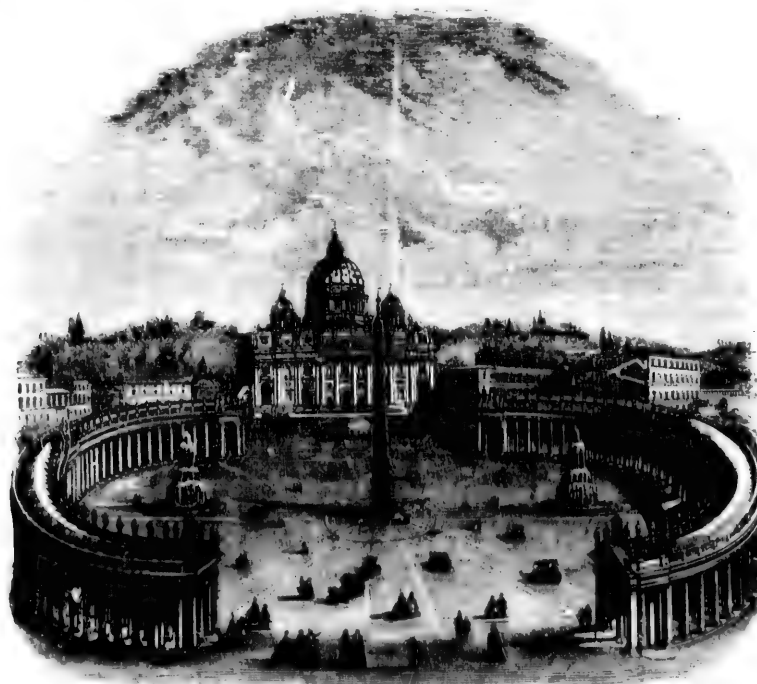
The **exports** are olive oil, wines, fruits, marble, sulphur, borax, and straw-plait.

Except in the north, the roads are almost impassable.

359. The **government** is a constitutional monarchy.

The army numbers about 225,000 men. Revenue \$150,000,000.

The Kingdom of Italy is rapidly rising in importance, and taking rank with the Great Powers of Europe. Financial embarrassment is the chief obstacle to its progress.



ST. PETER'S CATHEDRAL.

The Papedom.—360. The territories of the Pope were greatly reduced in extent by the revolutions of 1860. His present possessions lie along the lower course of the Tiber, and have an area equal to about one-fourth the size of Nova Scotia. A portion of the territory is within the low malaria region, which ages of neglect have rendered uninhabitable.—Population, 600,000.

361. **Rome** (197,000), the capital, once the mistress of the world, was founded 752 B.C. Its most important buildings are the *Vatican*, or residence of the Pope; *St. Peter's Cathedral*, the largest church in

the world; and the *Castle of St. Angelo*. The *Colosseum*, beyond the limits of the modern city, is a vast amphitheatre. Rome contains piles of ruins, half concealed by twining ivy and groves of cypress. Under the city are subterranean galleries, called the *Catacombs*, from which building materials were once quarried. They furnished a refuge to the early Christians in times of persecution.

Civita Vecchia (10,000), forty miles from Rome, is the chief port of the papal territory.

362. The Pope is the sovereign of his dominions, and also supreme head of the Roman Catholic Church in all parts of the world.

GREECE.

363. **Hellas**, or ancient Greece, was renowned as the seat of freedom, art, and civilization.

After submitting to the most degrading Turkish oppression for nearly four centuries, the Greeks in 1820 made a bold stand for independence. After a long indecisive struggle, Great Britain and other powers interfered in 1829, and compelled Turkey to acknowledge their freedom. (See *Collier's British History*, p. 312.)

Greece became a kingdom in 1832. The Bavarian Prince Otho ruled until 1862, when he was deposed, and the crown was bestowed on George of Denmark.

364. The continental part of the kingdom consists of the southern portion of the Hellenic peninsula.

Turkey lies on the north of Greece; the Archipelago on the east; and the Mediterranean on the south and west.

365. The **coast** is very irregular, and of great extent compared with the area.

The Gulfs of *Lepanto* and *Athens*, separated by the *Isthmus of Corinth*, cut off a peninsula on the south, called

the *Morea*. *Cape Matapan* is the most southerly point.

366. **Insular Greece** consists of many small islands. The principal are *Euboea* or *Negropont*, the *Cyclades*, and part of the *Sporades*, on the east; and the *Ionian Islands* on the west.

367. **Euboea**, 115 miles long, but very narrow, is noted for its fertility. The *Cyclades* include about twenty principal islands, of which *Paros* is noted for its marble, and *Antiparos* for its grotto.

368. The **Ionian Islands** formed a republic under the protection of Great Britain, from 1815 to 1863, when they were ceded to Greece.

They are associated with many interesting historic events. There are seven principal islands—*Corfu, Paxo, Santa Maura, Thiaki, Cephalonia, Zante, and Cerigo*. United area equal to one-third of Cape Breton. Population, 230,000.

369. The **surface** of Greece is mountainous. The *Pindus Mountains*, extending south from Turkey, divide into two ranges.

Mount Parnassus is over 8000 feet high. The famous pass of Thermopylae is between the mountains and the sea on the east.

370. The **climate** is mild and healthful. The sky in summer is remarkably clear. The sirocco sometimes renders the heat intense.

The principal **products** are grain, the vine, olive, fig, mulberry, dwarf-grape or currant, date, and orange.

371. The **inhabitants** are a mixed race. They are temperate and shrewd. Nearly all belong to the Greek Church. Education is rapidly advancing. The ancient Greeks were noted for refined taste, literature, sculpture, and architecture.

Towns.—372. *Athens* (40,000), the capital, is said to have been founded 1336 B.C.; but the present city is principally modern. In the vicinity are many interesting antiquities, as the Acropolis and Parthenon, the Areopagus, and the remains of the Temple of Jupiter Olympus, consisting of 16 columns 60 feet high. The Plain of Marathon is 25 miles north-east of Athens. (See *Collier's History of Greece*, p. 34.)

Corinth and *Sparta* were also noted ancient cities. The other towns are *Nauplia, Navarino, Tripolitza, Patras, and Argos*, on the mainland; *Egripo*, in Rubica; *Syra*, in the Cyclades; *Hydra*, in the Sporades; *Corfu* and *Zante*, in the Ionian Islands.

373. The leading **pursuits** are agriculture, grazing, and commerce. The inhabitants of the coast are skilled seamen, and carry on a large part of the trade of the Mediterranean.

The **exports** consist of the agricultural produce, with honey and wax; the **imports**, of manufactured goods.

374. The **government** is a constitutional monarchy. The army numbers about 11,000. Revenue, \$5,000,000.

TURKEY.

375. The Turkish or Ottoman Empire was founded by Osman near the close of the thirteenth century. The Turks, who are the ruling race in the empire, originally migrated from Central Asia. They obtained their first footing in Europe by the conquest of Adrianople, in 1361, and completed the overthrow of the Byzantine Empire by taking Constantinople, in 1453.

376. The Turks once threatened the subjugation of all Europe. Their progress westward was arrested by the Hungarians and Poles. Turkey is now a very weak State, and is often called "The sick man."

All its European possessions would ere this have been swallowed up by Russia but for the interference of other powers. (See *Collier's Great Events*, pp. 154–159.)

377. Turkey in Europe is bounded on the north by the Hungarian provinces of Austria, and by Russia; on the east by the Black Sea and the Sea of Marmora; on the south by the Archipelago and Greece; and on the west by the Adriatic and Austria.

378. On the south **coast** are the Gulfs of *Saros, Contessa, Kassandra, and Saloniki*.

The *Bosphorus* is a strait, 17 miles long and 1 mile broad, between the Black Sea and the Sea of Marmora. The *Dardanelles*, or *Hellespont*, 40 miles long and from 1 to 4 miles broad, connects the Sea of Marmora with the Archipelago. A strong current flows southerly through these straits.

379. The principal European **islands** belonging to Turkey are *Candia* or *Crete, Lemnos* or *Stalimene, Imbros, Samothraki, and Thaso*.

380. *Crete*, famous in Grecian fable, has long been struggling for freedom from the Turkish yoke. It is 150 miles long, and from 6 to 35 miles broad. The island is mountainous. *Mount Ida* is 7600 feet high. Near it is an immense cavern, supposed to be the ancient Labyrinth. The island is very fertile, yielding grapes, olives, oranges, and silk. Population, 150,000—mostly Greeks. Capital, *Candia* (12,000).

381. The **surface** of Turkey is mountainous. In the north-east are extensive lowland plains on each side of the Danube, which is the most important river.

The principal mountains are the *Balkan, Pindus, and Dinaric Alps*. The high ranges often render communication between different provinces difficult. *Olympus, Pelion, and Ossa* are important peaks near the Gulf of Saloniki. (See *Europe*, 33, 34.)

382. The **climate** in the southern provinces, except at high elevations, is mild and delightful. In the north the winters are very cold, and the summers very hot.

383. The **products** are wheat, corn, rye, millet; and in the south, the vine, olive, tobacco, cotton, and fruit.

The cultivation of the soil is greatly neglected, and the implements of husbandry are very rude. In many parts the chief wealth consists in cattle, sheep, goat, and bees.

384. The **population** is sparse. The Turks, though the dominant race, form but a small proportion of the inhabitants. They call themselves Ottomans or Osmanli, considering Turk a term of reproach. Greeks are numerous in the south. A wandering race, called Gypsies, are numerous in some provinces.

About one-third of the inhabitants are Mohammedans; the remainder generally belong to the Greek Church. Education is greatly neglected, consisting, amongst the Mohammedans, of little else than the ability to read the Koran.

385. The country is divided into several provinces, of

which Serbia, Wallachia, and Moldavia are under merely nominal subjection to the Sultan.

Towns.—386. *Constantinople* (700,000), the capital, is situated on a beautiful harbour of the Bosphorus, called the Golden Horn. The houses are mostly of wood, and the streets are narrow and filthy. The domes and minarets of the mosques present a splendid appearance from the water. St. Sophia, once a Christian church, is the finest mosque. The Seraglio is an old imperial palace, the chief entrance to which is called "The Sublime Porte." Baths are very numerous in Constantinople.

Adrianople (140,000) has extensive dye-works and manufactures. *Gallipoli* (50,000), *Saloniki* (70,000), anciently called Thessalonica, *Rodosto*, and *Varna*, strongly fortified, are sea-ports. Other important towns are *Bosna-Serai* (70,000), *Seres*, *Philippolis*, *Sophia*, *Silistria*, *Rustchuk*, *Sistova*, *Nicopoli*, *Widdin*, *Shumla*, strongly fortified in a pass of the Balkan, *Belgrade*, *Bucharest*, *Jassy*, *Ismael*, and *Galacz*, a port on the Danube exporting large quantities of grain.

387. Through indolence and want of skill, the **industries** are unproductive. The manufactures consist of carpets made by hand, silks, perfumery, and morocco. The foreign commerce is chiefly conducted by Greeks and Armenians.

There are no canals or railroads, and but few carriage roads. Domestic commerce is carried on chiefly by the rivers and by caravans.

388. The **government** is an absolute monarchy, unenlightened and oppressive. The sovereign is called the Sultan, and his chief minister is styled the Grand Vizier.

The Sultan is the head of the Mohammedan religion. The various

provinces of the empire are governed by Pachas, who have absolute power in their respective territories, and are seldom disturbed by the Sultan so long as they pay the annual tribute. The Pachas are often ignorant and base, crushing all spirit of enterprise and improvement by their rapacity.

The army amounts to about 100,000 men. Revenue, about \$45,000,000.

389. The **Ottoman Empire** embraces three great divisions—*Turkey in Europe*, *Turkey in Asia*, and *Turkey in Africa*.

The Turkish possessions in Asia are about three and a half times larger than those in Europe; the possessions in Africa are nearly twice as large. The Pacha of Egypt has lately become independent. Total area of the empire, equal to a square of 1225 miles. Population, 31,000,000.

EXERCISES.—1. A traveller proceeds from London to the Shetland Isles; thence to Christiania, Stockholm, and St. Petersburg;—required the distances between the stations, and the difference of time.

2. Edinburgh and Moscow are near the same latitude. State how they differ in respect to climate, and give the principal causes of difference.

3. What places in America are near the parallel passing through London?

4. Find the principal towns on the Danube—the Rhine—the Rhone.

5. State the leading points of difference between the mountains of Europe and those of America.

6. If the Atlantic and Pacific Oceans were united by a broad channel through Central America, what would be the probable effect on the climate of Europe?

7. How was the commerce of Venice affected by the discovery of the passage around the Cape of Good Hope?

8. State the chief advantages which Britain derives from its insular position.

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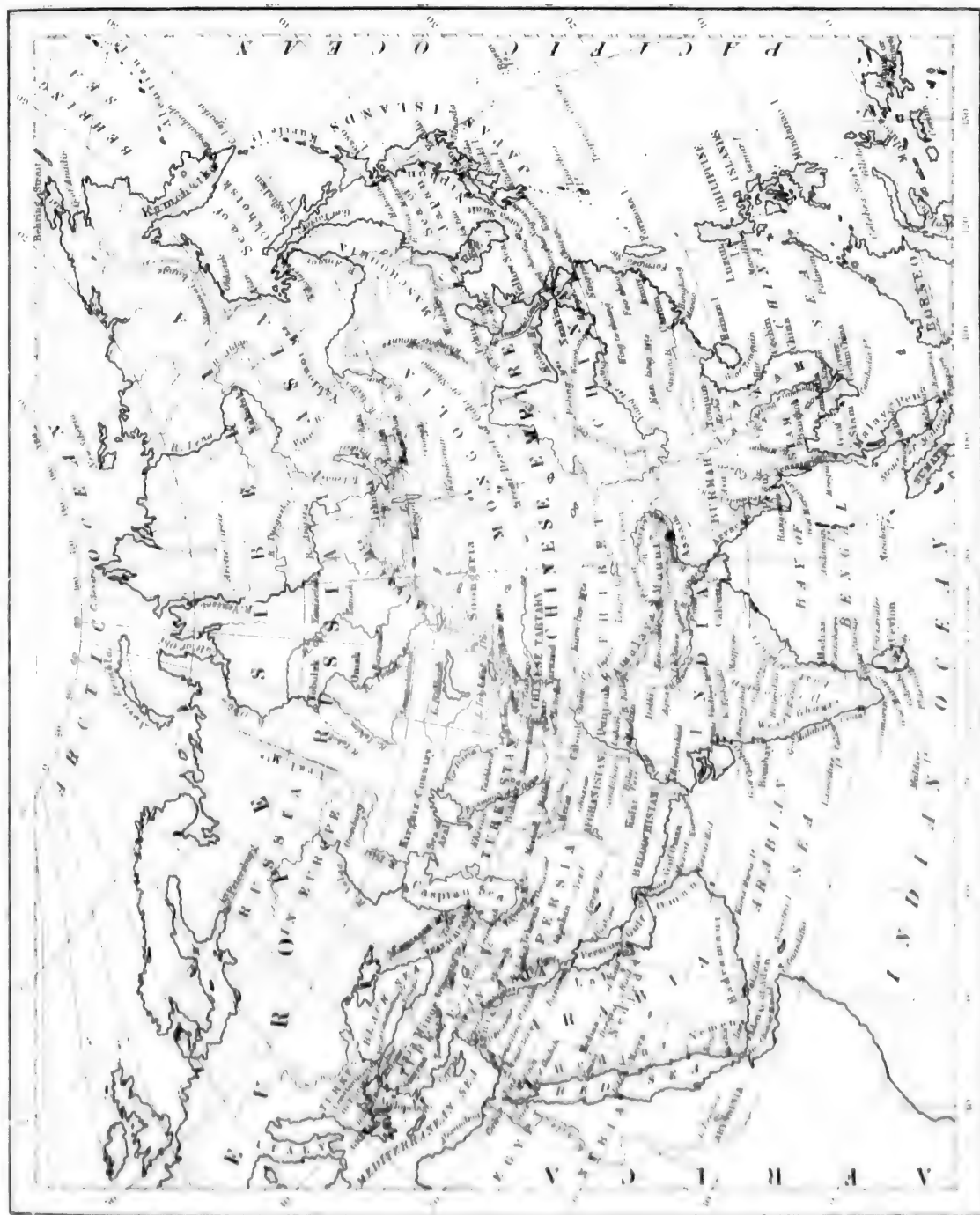
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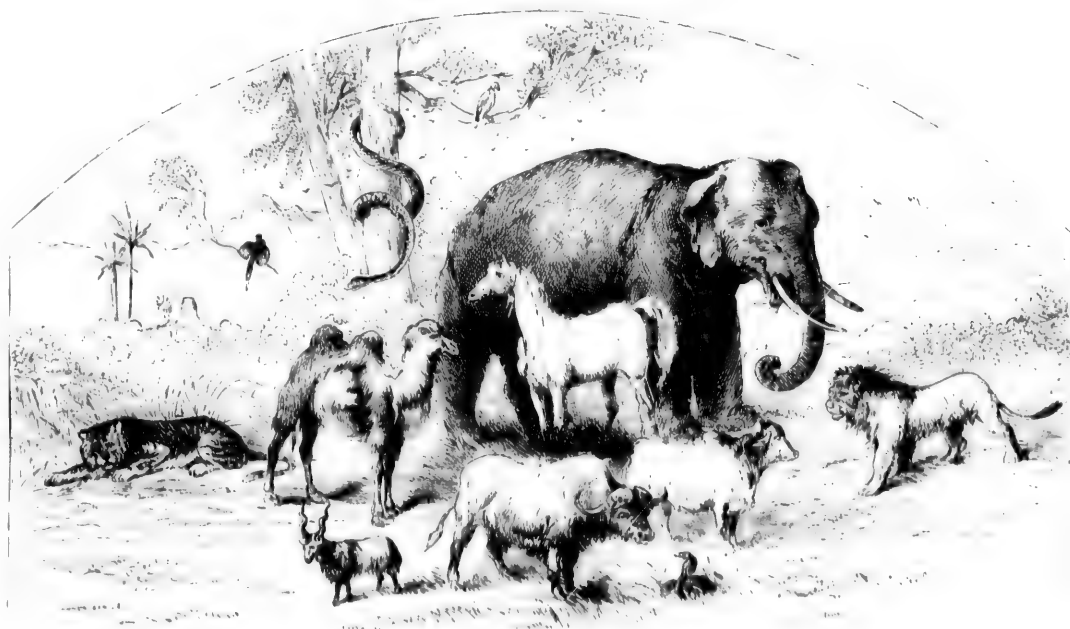
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ASIA.



ANIMALS OF ASIA.

I. History.—1. The name *Asia* was first applied to a district in the peninsula of Asia Minor, and subsequently extended to the whole continent. The origin of the term is unknown. Asia is the largest of the great divisions of the Earth, and contains nearly two-thirds of the human race.

2. The western part of the continent has been the scene of the most important events which ever occurred on our Earth. Here, probably, man was created; and here, somewhere between the Caspian and Black Seas, was the Garden of Eden, where he fell. Here, in the land of Palestine, the greater part of the Bible was written; here our Saviour was born, and lived, and was crucified.

3. In Western Asia, near the rivers Euphrates and Tigris, flourished

in succession the ancient empires of Assyria, Babylon, and Media-Persia. Then this whole region yielded to the power of Europe; first to Greece, 330 B.C.; and then to Rome, 55 B.C. The next important changes which passed over Western Asia were the Mohammedan conquests, in the second quarter of the seventh century A.D.

Central Asia has from time immemorial been occupied by nomadic pastoral tribes, who have on several occasions overrun Eastern and Western Asia, and have at different times penetrated far into Europe. The Mongol chief Genghis Khan, who lived in the early part of the thirteenth century, and his descendants Kublai Khan and Timur or Tamerlane, subjugated a large part of the continent.

4. The Crusades, or wars waged by the Christian powers of Europe for the possession of Palestine, resulted in opening trade between Europe and Asia. Intercourse was still further promoted by the discovery of the ocean route to Asia around the Cape of Good Hope in 1498. The Portuguese, who were the discoverers of this way, were the first to avail themselves of its advantages. In the beginning of

the seventeenth century the Dutch became powerful rivals of the Portuguese in the trade and colonization of Southern Asia and its islands.

The French and British, also, were rivals for the occupation of the central peninsula of the south, or Hindostan. The latter were the victors. The battle of Plassey in 1757 was the beginning of British triumphs in Southern Asia.

II. Position.—5. Asia is wholly in the Northern Hemisphere. It approaches within 100 miles of the Equator, and extends over 800 miles beyond the Arctic Circle.

The Arctic Ocean lies upon the north, the Pacific on the east, and the Indian Ocean on the south. The continents of Europe and Africa lie on the west and south-west. Behring Strait, on the north-east, separates Asia from North America. (See *Europe*, 11; *Africa*, 4; *North America*, 6.)

N. lat., 1° 15'—78° 20'; lon. 27° E.—170° W.

III. Form.—6. The general form of Asia is that of an irregular four-sided figure.

Asia has, like Europe, three great projections on the south; but they are here on a grander scale. There are also three projections on the east, and one on the west.

IV. Coast.—7. Asia has the sea on the north, east, south, and part of the west. The coast line is very irregular, presenting many deep indentations, particularly on the east and south.

The total length of coast line is estimated at 33,000 miles. This is much less, in proportion to the size of the continent, than the coast line of Europe.

8. The principal **Coast Waters** are the *Gulf of Obi*, on the north; *Behring Strait*, *Behring Sea*, *Gulf of Anadir*, *Sea of Okhotsk*, *Gulf of Tartary*, *Sea of Japan*, *Strait of Corea*, *Yellow Sea*, *Gulf of Pechelée*, *China Sea*, and the *Gulf of Tonquin*, on the east; the *Gulf of Siam*, *Strait of Malacca*, *Bay of Bengal*, *Gulf of Martaban*, *Gulf of Manaar*, *Arabian Sea*, *Gulf of Oman*, *Strait of Ormuz*, *Gulf of Aden*, and the *Strait of Bab el Mandeb*, on the south; the *Red Sea*, *Gulf of Akabah*, *Gulf of Suez*, *Mediterranean Sea*, *Aegean Sea*, the *Dardanelles*, *Sea of Marmora*, *Strait of Constantinople*, and the *Black Sea*, on the west.

9. The chief **Peninsulas** are *Kamchatka*, *Corea*, *Anam*, *Malaya*, the *Deccan*, *Arabia*, *Sinai*, and *Asia Minor*.

The principal **Capes** are *Severo*, on the north; *East Cape* and *Lopatka*, on the east; *Cambodia*, *Romania*, *Comorin*, and *Ras al Had*, on the south; and *Baba* on the west.

10. The chief **Islands** on the coast are *New Siberia*, on the north; *Alentian Isles*, *Kurile Isles*, *Saghalien*, *Japan Islands*, *Loo Choo*, *Formosa*, *Hainan*, and the *Philippine Islands*, on the east; *Borneo*, *Sunda Isles*, *Nicobar*, *Andaman*, *Ceylon*, *Maldives*, and *Laccadive Islands*, on the south; and *Cyprus* on the west.

11. **New Siberia** embraces a group in the Arctic Ocean. Some of the islands are remarkable for fossils.

The **Alentian Isles** are volcanic, and contain active volcanoes.

The **Kurile Isles** are also volcanic. The three southernmost belong to Japan. The remainder of the Kuriles, together with the preceding groups, belong to Russia.

Saghalien is a long narrow island, nearly three times the size of Nova Scotia. The northern portion belongs to China, the southern to Japan. The Loo Choo group belongs to Japan. (For *Japan* see *Asia*, 222-230.)

12. **Formosa** received its name from the Portuguese in consequence of the attractive appearance of its mountain slopes. It is about the size of the Peninsula of Nova Scotia. It is very fertile, yielding rice, sugar, and tropical fruits. It belongs to China.

Hainan, also belonging to China, is about two-thirds the size of Nova Scotia. Its mountains rise above the snow line. (For the *Philippine Islands*, *Borneo*, and *Sunda Isles*, see *Malaysia*, p. 146.)

The **Nicobar Isles**, in the Bay of Bengal, are very fertile. The climate is humid and unhealthy. They belong to Great Britain.

The **Andaman Isles**, also belonging to Great Britain, have a total area equal to Cape Breton.

13. **Ceylon** was ceded to Great Britain in 1801, by the Dutch, who had, about one hundred and fifty years previously, taken it from the Portuguese. The interior was ruled by native princes until 1815, when, at the request of the inhabitants, Great Britain assumed the sovereignty of the whole island.

Ceylon is about 60 miles from the mainland, from which it is separated by the Gulf of Manaar and Palk's Strait. It is one-third larger than Nova Scotia. Some of the mountains of the interior rise to the height of 8000 feet. The heat is not so great as on the mainland.

The north-west coast has long been celebrated for its pearl fisheries. Sapphires and rubies are among the mineral products. The soil is very fertile, yielding coffee, cinnamon, rice, tobacco, cocoa-palms, and fine fruits. Elephants are numerous. Population, 1,700,000.

Colombo (35,000) is the capital. *Trincomalee*, on the east coast, has one of the best harbours in the world. *Kandy*, in the interior, is the ancient capital.

14. The **Maldivé Islands**, about 300 miles south-east of Hindostan, produce millet and fruits. The population is about 180,000. They are ruled by a native prince, who is tributary to the British Government of Ceylon.

The **Laccadive Islands**, 150 miles west of Hindostan, produce rice, sweet potatoes, cocoa, and betel nuts. They belong to Great Britain.

15. **Cyprus** was colonized by the Greeks, by whom it was held sacred to Venus. It was taken by the Turks in 1570. The island is about 150 miles long, and contains an area equal to one-fourth of Nova Scotia. A range of mountains runs through the whole island—extreme height, 7000 feet. The soil is very fertile. The staple product is wine; the other important products are cotton, silk, wheat, tobacco, sugar, poppies, and fruits. The population is about 120,000, three-fourths of whom belong to the Greek Church. *Nicosia* is the capital.

EXERCISE.—Trace the coast line of Asia, marking inlets, capes, and islands.

V. Size.—16. Asia is twice as large as North America, and includes one-third the land surface of the Earth.

The area equals a square of 4123 miles. The extreme length from the Strait of Bab el Mandeb to Behring Strait is 6900 miles.

VI. Surface.—17. Asia presents great diversity of surface, varying from one-fourth of a mile below the sea-level, near the mouth of the Jordan, to five and a half miles above

the sea, at the summit of Mount Everest, a peak of the Himalayas. It thus furnishes the greatest depression and elevation known on the Earth's surface.

18. The continent consists of a great highland region through the interior and south, extending from the Mediterranean Sea to the Corea, and an immense low plain on the north. The highland region may be considered under two divisions;—a south-western, lying west of the Indus and south of the Caspian and Black Seas; and an eastern, commencing with the Bolor Mountains.

19. The **south-western highlands** are less extensive and less elevated than the eastern; they embrace the plateaus of Asia Minor, Armenia, Iran or Persia, and Arabia. The table-land of Arabia is separated from that of Iran and Armenia by the low valley of the Euphrates and Tigris.

20. The table-lands of Asia Minor, Armenia, and Iran are bordered on the north and south by mountain ranges.

The principal mountains are the *Taurus*, *Anti-Taurus*, *Mountains of Armenia*, the *Caucasus*, *Elburz*, and *Hindoo Koosh*. The *Mountains of Lebanon* extend southerly from the Taurus to the borders of Palestine. A low range continues southerly to the Red Sea, terminating in *Mount Sinai*, between the Gulfs of Suez and Akabah.

21. The Taurus Mountains have an extreme elevation of 13,200 feet. The Mountains of Armenia have their culminating point in *Mount Ararat* (17,112 feet), which is supposed to be the resting-place of Noah's ark. The highest point of the Elburz is the volcanic peak of *Demavend* (21,500 feet), south of the Caspian Sea. The Hindoo Koosh have an extreme height of 20,000 feet; the Mountains of Lebanon 12,000 feet.

22. The **eastern highland** region includes the most elevated table-land and the loftiest mountains in the world. It occupies the interior, extending 2400 miles east and west, 1700 north and south, and is bordered on all sides by snow-covered mountains.

The *Himalaya Mountains* ("abode of snow" form the southern border, the *Altai* the northern; the *Kuenlun* and *Thian Shan* extend through the middle, dividing the high region into three divisions of nearly equal breadth. These four ranges are united on the west by the *Bolor Tagh*, called by the inhabitants the *Roof of the World*.

23. The *Fablonoi* and *Stanoei* Mountains extend north-easterly from the Altai to Behring Strait. The *Khingan* and other ranges, extending north and south, form the eastern border of the plateau. The other mountains of Eastern Asia are the *Peling* and *Nauling* in China, and the mountains in the peninsula of Anam. In Hindostan are the *East* and *West Ghivats*.

24. The Himalayas are the highest mountains in the world. *Mount*

Everest, the culminating point, is 29,000 feet high; and more than forty peaks exceed 23,000 feet. The passes are very elevated and dangerous.

The Bolor Tagh have an extreme elevation of 19,000 feet; the Kuenlun, of 22,000; the Thian Shan, of 21,000; and the Altai, of 12,800 feet.

25. Between the Himalaya and Kuenlun Mountains is the high region of Thibet, consisting of mountain ranges and elevated valleys from 10,000 to 14,000 feet above the sea. The table-land of *Pamir*, in the north-west, is over 15,000 feet high.

On the north of the Kuenlun is an immense plain, called the Desert of Gobi or Shamo (*Sea of Sand*). Its average elevation is 3500 feet, its length is 1200 miles, and its breadth from 500 to 700 miles. It comprises East Turkistan and Mongolia. The western part is sandy, the eastern is a stony desert.

26. Volcanoes are very rare in Asia, except in the peninsula of Kamchatka and the islands, where they are numerous. Demavend is the only active volcano in the south-western highland region; in the eastern plateau there are but two, which are in the Thian Shan range.

Earthquakes frequently occur in the south-west of Asia.

27. The **low plain** in the north of Asia is nearly twice as large as Europe, comprising the greater part of Siberia and Turkestan. It is separated from the plain in the north-east of Europe by the Ural Mountains. In the neighbourhood of the Caspian Sea are extensive tracts of country considerably below the level of the ocean. The eastern part of Siberia is more uneven and elevated than the western.

EXERCISE.—Lay down the mountains on the map of Asia.

VII. Rivers.—28. The great rivers of Asia drain the northern, eastern, and southern slopes of the eastern highland region. Those of the northern and eastern slopes are among the largest rivers in the world.

29. The rivers of the north are frozen over in their lower course during the greater part of the year, and hence are of little commercial value. Owing to the slight descent, they have sluggish currents; and, on the melting of the snows in spring, overflow their banks, inundating large tracts of country. The principal rivers of this slope are the *Obi*, *Yenisei*, and *Leua*.

The Obi is 2500 miles in length, the Yenisei 2000, and the Leua 2100.

30. The rivers of the eastern slope are of great commercial importance. The principal are the *Amoor*, *Hwang Ho*, and *Yang-tse-Kiang*.

The Amoor is 2300 miles long; the Hwang Ho, 2000; and the Yang-tse-Kiang, which is the largest river in Asia, 3200.

31. The rivers of the southern slope are generally rapid. The most important are the *Mekong* or *Cambodia*, *Salween*, *Irrawaddy*, *Brahmapootra*, *Ganges*, and *Indus*. The *Goderaverry* and *Nerbuddah* are important rivers in the Deccan.

The Ganges is about 1900 miles long. It brings down vast quantities of mud, by which an extensive delta has been formed at its mouth. The lower part of the delta is called the Sunderbunds. In passing through the delta, the river is broken up into several channels, which are much obstructed by moving mud-banks. The tide enters by a high wave called the *bore*, which rushes up at the rate of eighteen miles an hour. During the rainy season the river overflows its banks, inundating large tracts of country. Its greatest height is over 30 feet above the ordinary level.

The Ganges is held sacred by the Hindoos, and pilgrims come long distances to bathe in its waters. In courts of law, witnesses who believe in Brahminism are sometimes sworn by the waters of the Ganges.

The Indus is 1700 miles in length. It also enters the sea by various mouths, which enclose an extensive delta.

32. The rivers on the western slope of the eastern highlands, as well as some others in Asia, do not reach the ocean, but flow into inland seas or lakes, whose surplus waters are removed by evaporation. The chief rivers on this declivity are the *Amoo* or *Oxus*, and the *Sir-daria* or *Jaxartes*. The Amoo rises in the table-land of Pamir.

33. The principal rivers of Western Asia are the *Euphrates*, *Tigris*, and *Jordan*.

The Euphrates has an entire length of 1750 miles. It rises near the Black Sea, and after approaching within 150 miles of the Mediterranean it turns to the south-east, and flows to the Persian Gulf. Its twin stream, the Tigris, is 1150 miles in length. The united river is called the *Shat-el-Arab*.

The Euphrates and Tigris flow through a region noted for its early civilization. Ancient Nineveh was on the Tigris; Babylon, on the Euphrates.

The Jordan is a small, winding stream, flowing southerly from the Mountains of Lebanon. It is noted for its low valley, and for its connection with numerous events in Bible history.

VIII. **Lakes.**—34. Asia has but two fresh-water lakes of large size—*Lake Baikal* and *Lake Balkash*, both of which are in the south of Siberia.

Baikal is nearly half as large as Lake Superior. It is about 400 miles in length, and 1400 feet above the sea level. The lake is very deep, and is supposed to occupy the crater of an extinct volcano. Trade between Russia and China is carried on by steamers across the lake.

Lake *Sir i kol*, the source of the Oxus, on the table-land of Pamir, 15,600 feet above the sea, is the most elevated lake known.

35. The *Sea of Galilee*, an expansion of the Jordan, about 14 miles long and 755 feet below the level of the ocean, is noted for its connection with many of the events in the life of our Saviour. It is also called the *Sea of Tiberias* and the *Lake of Genesareth*.

36. Salt lakes are very numerous in Asia, some of which are of great size. They have no outlet. The principal are the *Caspian Sea*, the *Sea of Aral*, the *Dead Sea*, *Lake Van*, *Orkoomah*, and *Tengrinor*.

The Caspian Sea, four and a half times larger than Lake Superior, is the largest lake in the world. Its surface is 84 feet below the ocean level. It receives the waters of the Volga and Ural rivers. The Sea of Aral is supposed to have been once connected with the Caspian, from which it is distant about 150 miles.

37. The Dead Sea, in Palestine, is 40 miles in length by 8 or 9 miles in breadth. Its surface is 1312 feet below that of the Mediterranean—the greatest depression known. Its shores are wild and desolate, and its waters are very salt. The Dead Sea is supposed to occupy the site of the cities of the plain, whose destruction is described in *Genesis xix*.

EXERCISE.—Lay down the rivers and lakes on the map of Asia.

IX. **Soil.**—38. The greater part of the northern slope is unfit for cultivation. The central highland region consists for the most part of barren deserts, pasture-lands destitute of trees, and snow-covered mountains. The eastern and southern slopes are very fertile. The south-west, embracing Persia and Arabia, consists largely of deserts and pasture-lands.

X. **Climate.**—39. About three-fourths of Asia lie within the Temperate Zone, the remainder is divided pretty equally between the Torrid and the North Frigid Zones.

In the north, including the greater part of Siberia, the winter comprises three-fourths of the year, and is intensely cold; the summer is hot. The central table-lands are cold in winter and hot in summer, and nearly destitute of rain, except on the mountains. The eastern slope is mild and moist.

40. South of the Himalaya Mountains the climate is hot and very humid. The year consists of a rainy season and a dry. During the dry season the ground is watered by heavy dews.

This portion of Asia lies within the region of the monsoons. When the sun is north of the Equator the rainy monsoon blows from the ocean; and when the sun is south of the Equator, the dry monsoon blows from the interior. Violent storms occur at the change of the monsoons. (See *Physical Geography*, 95.)

XI. **Minerals.**—41. Many parts of Asia are rich in minerals.

Gold, iron, copper, and platinum are found in the Ural Mountains; gold, silver, iron, lead, and porphyries, in the Altai; diamonds and other precious stones, in India and Burmah; tin is found in the south-eastern peninsula; coal, in Asia Minor, India, China, and Japan; salt is abundant in many countries.

The *Koh-i-nûr* ("mountain of light"), the most valuable diamond in the world, was found in the year 1550 on the banks of the Godavery. It was long in the possession of native princes, but now belongs to the Sovereign of Great Britain.

XII. **Plants.**—42. The vegetation varies according to the temperature and humidity.

The south of Siberia is covered with forests of pines and firs, but a large part of this country is destitute of trees. Lichens and mosses are the chief vegetation of the north.

In the central table-lands the most important products are

the grasses, which afford nourishment to numerous flocks and herds. There are forests upon the mountain slopes.

43. The northern part of the eastern slope, embracing Manchooria, yields the products of the Cold Temperate Zone; the southern part, or China, is in the Warm Temperate Zone, yielding rice, the tea plant, the mulberry tree, and cotton.

44. The regions south of the Himalayas—or the central and eastern peninsulas, and the islands on the coast, embracing the countries called the *East Indies*—having a hot and moist climate, yield the finest products of the Torrid Zone in great abundance. Some of the most important products are rice, cotton, coffee, opium, pepper, cloves, cinnamon, nutmegs, ginger, and fine fruits. The forests contain ornamental and dye woods, teak, the caoutchouc or

The bamboo is a large hollow reed, growing from 50 to 80 feet high. Its stalk is used as a building material, and its leaves are made into ropes, sails, and many other things.

46. Asia Minor and Syria are the native regions of many cultivated plants and flowers, including the grape, peach, pear, cherry, fig, melon, cucumber, rose, and tulip.

Arabia produces gums, spices, coffee, and tropical fruits.

XIII. Animals.—47. Asia surpasses the other great divisions of the Earth in the variety and size of its wild animals. It is also the native abode of the most useful animals. Most of the domestic animals of the civilized world have been derived from Asia, as the horse, ass, ox, goat, sheep, pig, cat, peacock, and barn-fowl.

48. Fur-bearing animals, like those in the north of British America, abound in the north of Asia.

Cattle, horses, asses, and goats, roam over the highland plains. The yak, a species of wild ox, and the Cashmere goat, are found in the table-lands of Thibet.

49. The largest and most formidable wild animals inhabit the forests south of the Himalayas. The most important are the elephant, rhinoceros, lion, tiger, hyena, orang-outang, and large and venomous serpents.

The most important animals of the south-west are the camel, wild ass, antelope; and, among the birds, the ostrich, peacock, and bustard.

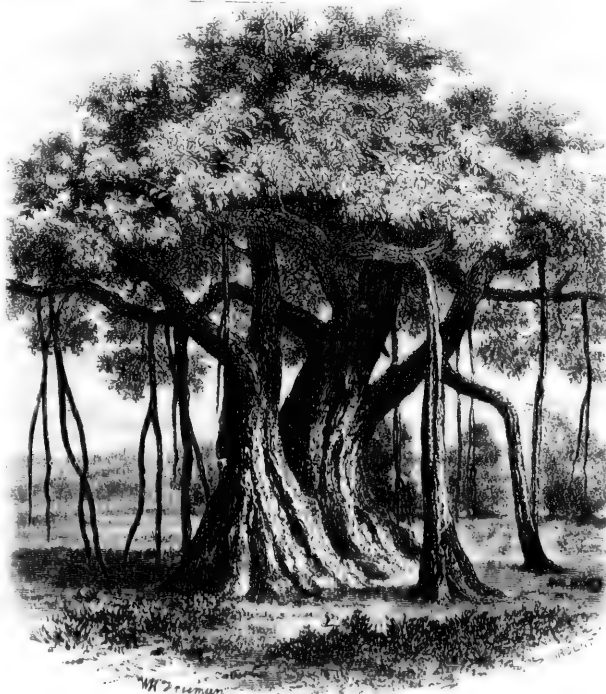
XIV. Inhabitants.—50. The number of the inhabitants is not accurately known. It is estimated at 700,000,000, or about three-fifths of the human race. According to this estimate, Asia has an average of 41 inhabitants to the square mile.

51. The inhabitants of Asia belong to three of the five varieties of the human family. The Caucasian race occupies the south-west, extending east to the Brahmapootra, and north to the Himalaya and Hindoo Koosh Mountains and the Caspian Sea; the Malay occupies the Malay peninsula and the islands to the south; and the Mongolian is spread over the remaining and much the larger portion of the continent. (See *Physical Geography*, 127-130.)

52. Nearly all the inhabitants are heathens. Mohammedanism prevails among the inhabitants of the west; Brahminism among those of India; and Buddhism among the principal remaining portion, including more than half of the inhabitants of the continent.

Thus though the Christian religion originated in Asia, but few of its inhabitants know anything of the blessings which it has brought to mankind.

XV. Divisions.—53. Asia is usually divided into the following eleven divisions:—*Asiatic Russia*, the *Chinese Empire*, *Turkestan*, *Afghanistan*, *Beloochistan*, *Persia*, *Asiatic Turkey*, *Arabia*, *Hindustan*, *Further India*, and *Japan*.



THE BANYAN.

India-rubber tree, the banyan tree, bamboo, and many species of palms.

45. The banyan is a remarkable tree. Its wide-spreading branches send out roots, which wave in the air until they have grown long enough to reach the ground, when they fix themselves in the soil, and become pillars of support. A single tree thus spreads over a large area, presenting the appearance of a grove.

Some of the above divisions include several independent States.

Divisions.	Area.		Population.	Capitals.
	Miles square.	No. of times the size of Nova Scotia.		
ASIATIC RUSSIA ..	2400	310	8,500,000	Omsk, &c.
CHINESE EMPIRE ..	2230	260	415,000,000	Pekin.
TURKESTAN	800	40	5,000,000	Khiva, &c.
AFGHANISTAN	475	12	5,000,000	Cabool, &c.
BELOOCHISTAN	400	9	1,000,000	Kelat.
PERSIA	707	27	10,000,000	Teheran.
ASIATIC TURKEY ..	707	27	16,000,000	Smyrna, &c.
ARABIA	1096	65	8,000,000	Mecca, &c.
HINDOSTAN	1217	80	180,000,000	Calcutta.
FURTHER INDIA	1000	54	25,000,000	Bankok, &c.
JAPAN	400	9	35,000,000	Yeddo.

XVI. Towns.—54. Asia contains many large cities. *Yeddo*, supposed to contain 2½ millions of inhabitants, and *Pekin*, 2 millions, are the only cities in the world which rival London in population.

Most of the cities of Asia are surrounded with walls of mud, or sun-dried brick. In the west, the houses of the wealthy are built of stone or brick, and have flat roofs. They usually have no windows toward the street, but are built around an open space or court, from which they are lighted. In the east, the houses are low huts of mud or bamboo.

Damascus, in Syria, is thought to be the oldest city in the world, having existed in the time of Abraham. (See *Genesis* xv. 2.)

55. South-western Asia contains many ruins of ancient cities. *Petra*, the ancient capital of Idumea, situated in a valley called Wady Mousa in the north-west of Arabia, is one of the most remarkable. Its remains consist of temples, houses, and tombs, cut out of solid rock of beautiful and varied colours. *Palmyra*, or *Tadmor* (*City of Palms*), on an oasis in the desert, 120 miles north-east of Damascus, was founded by King Solomon. Its remains comprise marble columns, gateways, aqueducts, and sepulchres. In the third century it was the capital of the celebrated Queen Zenobia. *Baalbec*, 43 miles north-west of Damascus, contains magnificent remains of ancient temples. (See *Collier's Rome*, p. 136; and *Lippincott's Gazetteer: Palmyra and Baalbec*.)

56. The ruins of *Ninereh*, the capital of ancient Assyria, extend many miles along the Tigris. For many centuries its remains were covered over with debris and earth, presenting the appearance of grassy mounds. Excavations were commenced in 1843, by M. Botta, the French consul; and the work has been more fully prosecuted by Mr. Layard, an English traveller. The explorations have resulted in the discovery of chambers of stone palaces, sculptures, inscriptions, and other remains. Many of these antiquities have been removed to the British Museum. (See *Lippincott's Gazetteer*.)

57. The ruins of *Babylon*, along the Euphrates, near the present town of Hillah, consist of large masses of brickwork and mounds. Its materials have been largely plundered for the construction of other cities. An immense mound, called Birs Nimrud, 200 feet in height, surmounted by a tower 37 feet in height, is supposed to be the remains of the Tower of Babel. (See *Lippincott's Gazetteer*.)

XVII. Industries.—58. The inhabitants of the north live principally by hunting and fishing; those of the arid

plains of the interior and south-west are herdsmen; in other parts agriculture is the chief occupation. Some of the Asiatics excel in the manufacture of shawls, carpets, porcelain, lacquered ware, and carved ivory-work. The manufactures are mostly performed by hand.

XVIII. Government.—59. The want of good government seriously affects the prosperity of most of the countries of Asia. Absolute despotism is the most common form.

In many countries there is no efficient central government. The inhabitants are divided into tribes, each yielding obedience to its chief. The roving herdsmen are generally lawless plunderers, freely appropriating any property possessed by those weaker than themselves.

ASIATIC RUSSIA.



WINTER TRAVELLING IN SIBERIA.

60. Russia first obtained possessions in Asia towards the end of the sixteenth century. She has continued to extend her bounds, until they now include nearly one-third of the continent. The territories embrace *Siberia*; the northern part of *Turkestan*, called the *Kirghiz Country*; the *Valley of the Amoor*, obtained from China; and the provinces south of the Caucasus Mountains, or *Trans-Caucasia*.

61. *Siberia* is divided into West and East Siberia. The whole country is for the most part a vast plain, sloping gradually to the Arctic Ocean. The western section is generally very level. The south-west consists of steppes often barren and incrustated with salt, but sometimes yielding herbage for the flocks and herds of the nomadic tribes.

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The central parts are covered with forests of birch, pine, and fir, which abound in various fur-bearing animals. The northern portion consists of low flats, called *tundras*, covered with moss and lichens. East Siberia is more rugged and elevated. It contains the *Stanovoi* and *Yablonoi Mountains*.

The three great rivers of Siberia are the *Obi*, *Yenisei*, and *Lena*. The lakes are *Aral*, *Balkash*, and *Baikal*.

62. The **climate** of Siberia is very severe, particularly in the north and east. The frost penetrates the ground to a great depth, and throughout a large part of the country only two or three feet of the surface are thawed during the short summer. The valley of the *Lena* is said to be the coldest inhabited region in the world.

The **minerals** are important. The *Ural Mountains* contain gold, silver, platinum, quicksilver, copper, and precious stones.

Barley, rye, and vegetables are cultivated in the southern valleys. The valley of the *Amoor* is a fertile region, well adapted to agriculture.

The animals include bears, wolves, beavers, and others, valuable for their fur. The rivers and lakes abound in fish.

The reindeer is one of the most important animals of Siberia. With it harnessed to their sledges, the natives bound over the wintry snows. Its milk and flesh furnish food, and the skin is made into clothing and tents.

63. The **inhabitants** of Siberia are supposed to number between four and five millions. The Russian Government has long used the country as a place of banishment for criminals and all kinds of political offenders. A large part of the population consists of exiles and their descendants. Many of the criminals are compelled to work in the mines.

The *Samoyedes* are a small-sized race, inhabiting the northern shores. They subsist principally on fish and reindeer.

Towns.—64. *Omsk*, in a treeless plain, is the capital of West Siberia. *Tobolsk* (20,000), at the junction of the Irtysh and Tobol Rivers, is the largest town. *Irkutsk* (19,000), on the Angara, is the capital of East Siberia. *Petropaulovski* (*Port of Peter and Paul*), is on the coast of Kamchatka. *Kiuchta*, on the Chinese frontier, is the emporium of trade between the two countries. Tea, silk, and other goods, are brought on camels from China, and exchanged for furs, leather, and woollens.

Minerz, hunting, and fishing are the chief occupations. Ivory of fossil elephants is obtained in large quantities along the shores of the Arctic, and forms an important article of commerce.

65. The **Kirghiz Country** lies east of the Caspian. A large part of the region consists of barren plains and salt lakes. A little barley and rye is raised near the rivers, but pasturage is the chief product.

The Kirghiz are nomadic Mongol hordes. They are of small stature, but are strong and healthy. Their wealth consists in sheep, goats, cattle, and horses. Their food is chiefly flesh. *Koumiss*, or sour mare's milk, is their favourite drink. The men are indolent, and the women perform most of the labour.



KIRGHIZ CAPTURING A WOLF.

66. **Trans-Caucasia**, or the Russian territory south of the Caucasus, embraces Georgia and part of Armenia. The north is mountainous. *Ararat* is an isolated volcanic peak over 17,000 feet high.

The greater part of the country is described as very beautiful and fertile. Forests of oaks, beeches, and other trees clothe the mountain slopes ; and the cultivated plants include grapes, peaches, figs, and apricots.

The men of Georgia are noted for their well-formed, athletic bodies ; the women, for their beauty. Population, 1,625,000.

Towns.—67. *Tiflis* (\$8,000) on the Kur, is the capital. It has manufactures of carpets, shawls, and silks. *Erivan* and *Baku* are the other principal places.

Ancient Colchis, celebrated for the fabled expedition of the Argonauts in search of the golden fleece, was situated along the eastern shores of the Black Sea. (See *Collier's History of Greece*, chap. 1.)

THE CHINESE EMPIRE.

68. The Chinese Empire is of great antiquity, but its early history is involved in fable. Its records extend back to the time of Confucius, 500 B.C. China can boast of an earlier civilization than any other existing nation ; but for many centuries its civilization has made little progress. It

has experienced many revolutions ; and, according to Chinese records, twenty-six different dynasties have occupied the throne.

69. To protect themselves from invasion of the Tartars, the Chinese, about 200 B.C., built a great wall along their northern frontier. Kublai Khan, the great Mongolian conqueror, founded a new dynasty near the close of the thirteenth century. Marco Polo, a celebrated Venetian traveller, spent seventeen years at his court, and on his return gave to Europe the first authentic account of China.

The Manchoo Tartars conquered China in the seventeenth century, and established the present dynasty. Bands of insurgents, called Taepings, have for many years endeavoured to establish a new government.

70. Trade with foreigners was formerly confined to the port of Canton. The wars with Britain since 1841 have resulted in more unrestricted intercourse.

71. The Chinese Empire embraces nearly a third of Asia, and over a third of the inhabitants of the world. The Empire consists of *China Proper*, *Thibet*, *Chinese Tartary* or *East Turkestan*, *Soongaria*, *Mongolia*, and *Manchooria*.

CHINA PROPER.

72. China Proper is the most important division of the empire. It is situated in the Warm Temperate region of the eastern slope. It is bordered by high mountains on the south and west, and includes the valleys of the great rivers *Yang-tse-Kiang* and *Hoang Ho*. China is one of the best watered countries in the world.

73. The soil is exceedingly fertile, and is cultivated with great care. In order to add dignity to agriculture, the Emperor, attended by his nobles, at a grand annual festival ploughs a furrow and sows some seed.

The chief products are rice, tea, cotton, wheat, and other grains ; the mulberry, tallow, and camphor trees ; sugar-cane, oranges, and other fruits. The bamboo is one of the most useful trees.

74. The inhabitants belong to the Mongolian race. They are smaller and have less strength than Europeans ; but they are very industrious and ingenious. They are very vain, and claim to be the only civilized people in the world. The women have small feet, caused by compression in youth. The Chinese show great respect to old age, and have many good qualities.

No country of the same extent has so dense a population as China.

Schools and books are numerous in China, and many of the sciences are studied. The Chinese language is very ancient, and difficult to foreigners. The written language has a distinct character for every word.

The Chinese were acquainted with the use of the mariner's compass, the art of making gunpowder, paper, and porcelain, with silk-weaving and printing, long before the Europeans.

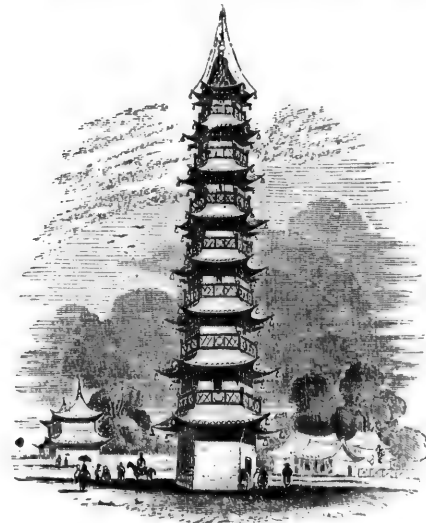
The majority of the people are Buddhists, and pagodas or idol temples are numerous ; but much liberty is allowed in religious matters. The higher

classes believe in the doctrine of Confucius. There are Christian missionaries in many of the maritime towns.

Towns.—75. China contains many large cities. *Pekin* (2,000,000), the capital, is about 100 miles from the sea. It consists of two divisions, each encircled by a high wall ;—the Tartar town, containing the imperial palace and the residences of the nobles ; and the Chinese town, where the chief trade is carried on. It has been the capital since the time of Kublai Khan. An allied force of British and French took the city in 1860.

Canton (1,000,000) is on the Canton or Pearl River, 70 miles from the sea. The population is very much crowded. It is computed that 200,000 live in boats on the river, many of whom never set foot on land. There are no wheeled vehicles in the streets. Wealthy persons are carried in sedans by their servants. The trade of Canton is extensive ; but it has diminished since the opening of other ports. Large vessels are unable to come up to the city.

76. *Nankin* (300,000), on the Yang-tse-Kiang, is noted for its manufactures of silk and nankeen cloth. The Taeping insurgents



PORCELAIN TOWER AT NANKIN.

captured the city in 1853, put many of the inhabitants to death, and destroyed the celebrated Porcelain Tower.

King-te-chiang (1,000,000) is noted for its porcelain manufactures. *Hang-chow-foo*, at the south end of the Great Canal, and *Chang-choo-foo* (1,000,000), are noted for silk manufactures. *Woochang*, *Hanyang*, and *Hankoo* are great commercial cities, in sight of each other on the Yang-tse-Kiang, said to have a united population of 8,000,000.

Canton, *Shanghai*, *Foo-choo*, *Amoy*, and *Ningpo* are the chief ports for foreign commerce.

Macao (50,000), a sea-port south of Canton, was ceded to the Portuguese in 1586.

77. Agriculture and manufacturing are the principal occupations.

The Chinese excel in the manufacture of porcelain, often called *china ware*, silk, nankeens, embroidery, lacquered ware, and carved ivory-work.

The chief exports are tea, silks, and various manufactured goods. The imports are iron, steel, glass, opium, cottons, woollens, and ale.

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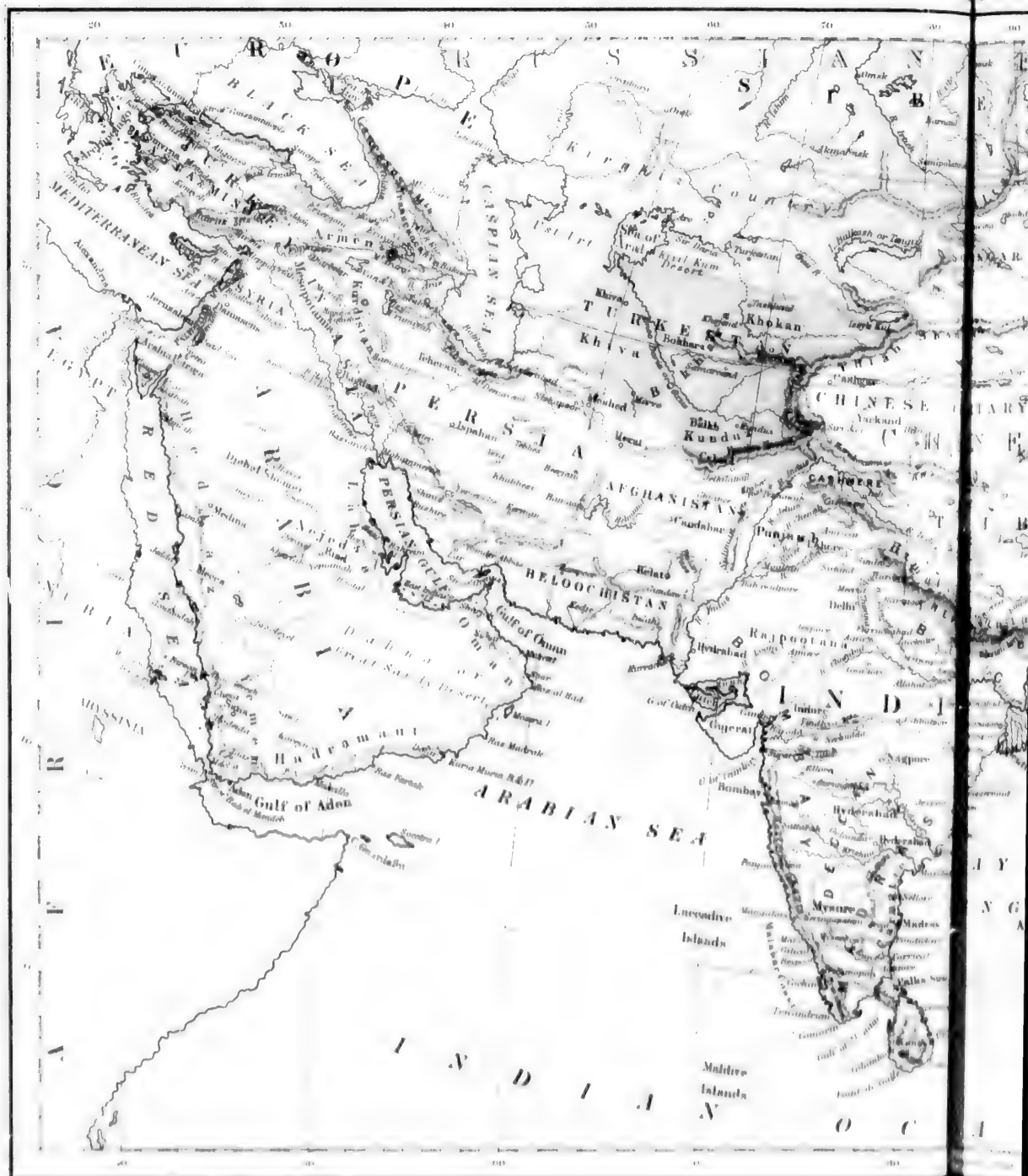
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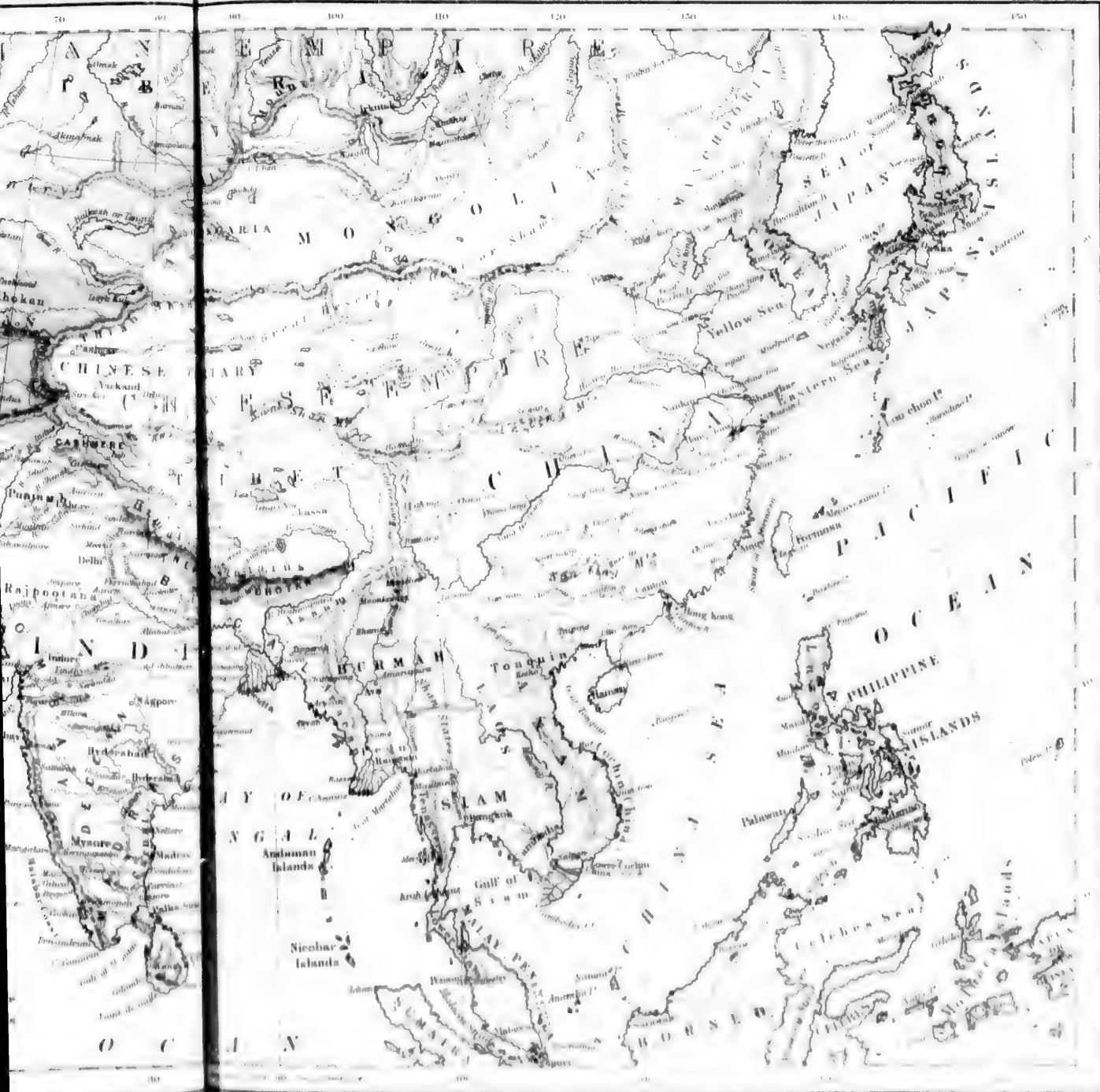
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Internal commerce is promoted by the rivers and numerous canals. The Imperial Canal, extending from Hang-chow northerly, 700 miles, is the largest canal in the world.

78. The **government** is an absolute despotism. The army is very large, but quite ineffective when opposed to a European force.

The Great Wall on the north of China Proper, built as a defence against the Tartars, is 1250 miles in length. It is made of earth, faced with stone and brick; varies in height from 15 feet on the mountains to 30 feet on the plains; and is broad enough to allow six horsemen to ride abreast on its summit. It failed in the object for which it was built, and is now becoming dilapidated.

79. The **Island of Hong-Kong** (75,000), together with a small peninsula on the adjoining mainland, belongs to Great Britain. The island was ceded in 1843, the peninsula in 1861. (*See Collier's British History*, pp. 321, 329.)

SUBJECT TERRITORIES.

80. **Thibet** embraces the high table-land between the Himalaya and Kuenlun Mountains. Its plains are two miles high. Many of the great rivers of Asia rise within its bounds. The climate is cold and dry in winter, and warm in summer. The snow-line is higher than on the south side of the Himalayas.

81. The country is rich in gold, silver, and other valuable minerals. Barley is extensively raised, and forms an important article of food. Timber is very scarce.

The yak or grunting ox, the Cashmere goat, and the bhoral are among the important animals. The latter is a kind of large sheep, and is the principal beast of burden used in carrying goods across the Hia-cayas.

82. The inhabitants are chiefly Mongols. The idolatrous system of Buddhism has its native seat in Thibet. The supreme head of the system is called the Grand Lama, who is held to be the god Buddha in human form. Buddhists believe that the Grand Lama never dies, but that his spirit passes into some other person, who is searched out by the priests. The Chinese Viceroy exercises considerable influence in the selection.

83. **Lama** (50,000) is the capital and place of residence of the Chinese Viceroy. It is the sacred city of Buddhists. The Grand Lama lives here in a vast temple, which is richly adorned with gold and works of art, and filled with images. Adjoining the temple are several universities, in which the mysteries of Buddhism are taught.

84. The chief employment in Thibet consists in the rearing of sheep and goats. Woollens are manufactured.

The chief trade is with China, and is conducted by caravans. Tea is an important export.

85. **Chinese Tartary**, or East Turkestan, also called

Little Bucharia, is situated between the Kuenlun and Thian Shan Mountains. The eastern portion is included in the Desert of Gobi. (*See Asia*, 25.)

The streams which originate in the mountains and flow into land-locked lakes, render many of the valleys very fertile. The majority of the inhabitants are Mohammedans, who are engaged either in agriculture or the caravan trade. There are also many Mongol herdsmen, who wander over the country.

86. **Yarkand** (150,000) is the chief seat of commerce, and the place of residence of the Chinese governor. *Cashgar*, towards the west, the former capital, is a very ancient city.

An extensive caravan trade is carried on through Yarkand, between China and Independent Tartary.

87. **Soongaria** is situated between the Thian Shan and Altai Mountains. It is diversified with low ridges and intervening valleys. Some of the valleys, watered by mountain streams, are capable of cultivation, but the greater part of the country is desert.

Grazing, hunting, and agriculture are the chief occupations. The inhabitants are Mongol Tartars.

Hi or Guldja (60,000), the capital, has considerable trade with Russia.

88. **Mongolia** lies east of Turkestan and Soongaria, and is principally within the Desert of Gobi. It is an arid country, having a short warm summer and a long cold winter. Vegetation is very scanty. Grazing is the chief occupation. The inhabitants have no fixed dwellings, but move from place to place, seeking pasture for their flocks and herds, in which their sole wealth consists.

89. *Maimatchin* is a small town in the north of Mongolia, on the Russian frontier. Here the Russians and Chinese meet. *Urga* is the seat of the Mongol Lama.

Near the middle of the country are the ruins of Karakorum, the capital of Genghis Khan, the great Mongol conqueror.

90. **Manchooria**, the native country of the Manchus, in China, lies on the coast west of Mongolia. A large tract south of the Amoor has recently been ceded to Russia. The southern part of the country yields the common cereals; the west is mountainous, and covered with forests.

Manchou (200,000), the chief city, was the Manchu capital, and is the present seat of the Chinese Viceroy.

91. **Corea** is the seat of a separate kingdom tributary to China. It is an extensive peninsula, equal to a square of 450 miles. Much of the country is rugged and mountainous.

The north is cold, and covered with forests, and is traversed and crossed by rivers.

Kingki is the capital. Its trade is chiefly with China and Japan. Paper is an important article of export, and is made of bamboo, mulberry, and many other trees.

TURKESTAN.

92. Turkestan, or *Land of the Turks*, formed a part of ancient Scythia. The Tarks of Europe and Western Asia came from Turkestan during the Middle Ages.

The country lies between the Caspian Sea and the Chinese Empire. The general surface consists of low, unwooded plains.

There are extensive deserts covered with sand, which is ever shifting with the wind. Travellers in crossing the deserts suffer greatly, and sometimes perish from thirst. They are also in danger of being attacked by wandering native tribes.

93. Along the south and east are mountain ridges, amid which are numerous well-watered and fertile valleys. The *Amoo* and *Sir-daria* are the principal rivers. Much of the soil on their banks is very fertile.

The climate is very cold in winter and hot in summer. There is great scarcity of rain, except in the mountainous regions.

The products are wheat, barley, millet, rice, cotton, silk, apples, peaches, apricots, and melons.

94. The population consists of several races. The *Oghs* are the most important of those who have fixed places of abode. The nomads of the north are called *Kirghiz*, those of the west *Turk-mans*. The latter are noted robbers, and they frequently make raids into Persia and other adjoining countries, carrying off defenceless inhabitants, whom they sell as slaves.

Mohammedanism is the principal religion.

95. Turkestan includes several distinct political divisions, called *Khanates*. The most important States are *Khiva*, embracing the lower valley of the *Amoo*; and *Bukhara*, and *Kokan*, in the east.

Towns.—96. The chief city in each of these States bears the name of the Khanat in which it is situated.

Khiva, situated in the most fertile portion of Turkestan, is a small, walled town. The houses are built of mud, and the town is surrounded by a mud wall. It is a noted slave market.

97. *Bukhara* (150,000) is the largest city in Turkestan. It is famed for its numerous mosques and Mohammedan schools. It has a university, in which little besides the Koran is taught. *Samarkand*, a small town in the same State, is noted as the capital of the great empire ruled by Tamerlane (1370-1405), whose tomb it contains. *Balsh* is a small town in the midst of the ruins of ancient Bactria, which cover a district 20 miles in circumference.

98. *Kokan* (100,000), situated in a beautiful valley, covers a large tract, the houses being surrounded with orchards. *Tashkend* is an important commercial town.

99. The wealth of the nomads consists in cattle, horses, camels, and sheep. The sheep have large fat tails. The Turkoman women make beautiful carpets.

The trade of Turkestan is conducted by caravans. It is principally with Russia, Persia, and China. Cotton, wool, silk, furs, and fruits are exported. Handicrafts are imported from Russia, and the silks are brought from China.

The *Emirs* or chief rulers have absolute power. They are, particularly the English, are regarded with suspicion.

AFGHANISTAN.

100. Afghanistan, or *Afghan-land*, has been the scene of fierce wars. In 1839 the British sent an army into the country to restore the rightful sovereign, who had been driven from the throne by a usurper. In 1842 three thousand eight hundred British troops were massacred by the natives. (See *Collier's British History*, p. 320.)

101. Afghanistan lies south of Turkestan, from which it is separated by the *Hindoo Koosh* and *Paropamisian Mountains*. The northern and eastern parts are elevated and mountainous; the south and west consist largely of sandy deserts.

102. In the mountains on the north is the *Hamian Pass*, leading to Turkestan. It is remarkable for its colossal figures and cave-houses, sculptured from the rocks. The *Khyber Pass*, leading to Hindostan, is about 30 miles in length, often very narrow, and enclosed with high cliffs. The British troops entered Afghanistan through this pass in 1842.

103. Many favoured sections along the river valleys are very fertile. The heat of summer in the valleys and lowlands is intense; the winters in the highlands are very severe.

The products are rice, cotton, sugar-cane, millet, corn, grapes, oranges, and other fruits.

The chief beasts of burden are camels and dromedaries. The sheep have fat tails, weighing 10 or 12 pounds.

The Afghans are a warlike people, embracing the Mohammedan religion.

Towns.—104. Afghanistan includes three independent States: *Cabool*, *Candahar*, and *Herat*, the capitals of which have the same names.

Cabool (60,000), the largest, is 5,640 feet above the level of the sea. The orchards in its neighbourhood produce fine fruits. The outbreak against the British in 1841 began in Cabool. *Ghazni* was the capital of a great empire in the eleventh century. *Jeholabad* is noted for its defense by the British in 1842.

105. *Herat* (45,000) is a strongly fortified town. It was taken by Persia in 1856. Much of the trade between Eastern and Western Asia passes through Herat.

Candahar, a fortified city, is said to have been founded by Alexander the Great. It is intersected by a canal, by which the gardens and orchards are irrigated.

106. The chief trade is with India, China, Persia, Turkestan, and Russia, conducted by caravans. The exports are carpets, tobacco, fruits, carpets, sheep, and horses. Various manufactured goods are imported.

BELOOCHISTAN.

107. Beloochistan, or *Land of the Beloochs*, has suffered much from civil strife during the present century.

Alexander the Great, with his army, passed through the southern

part of the country on his return from India, 325 B.C. Thousands of his men perished in the *Desert of Gedrosia*, from fatigue and thirst. (See *Collier's History of Greece*, p. 110.)

108. Beloochistan lies on the north of the Arabian Sea. The whole country, except in the north-west and on the coast, is mountainous. There are extensive deserts. The river valleys are fertile.

The *Bolan Pass* is a narrow defile about 50 miles in length, leading to Hindostan. Extreme height, 5800 feet.

109. The temperature varies according to the elevation. The maritime region, called *Mekran*, is arid and excessively hot.

The products are similar to those of Afghanistan. The palm-tree is the most important product of the deserts.

The country is occupied by several pastoral tribes, all of whom are Mohammedans.

Kelat (12,000), the chief town, is on an elevation 7000 feet above the sea, and is strongly fortified. The houses are built of mud. It was taken by the British in 1839.

110. The exports are hides, wool, dried fruits, and vegetable oil. The principal imports are British and Indian manufactures.

The north-east is subject to the Khan of Kelat; in other parts of the country the various tribes own no authority but that of their respective chiefs.

PERSIA.

111. Persia was among the earliest civilized countries of the world. It retains but little of its former importance. In the early part of the present century it was forced to cede to Russia extensive territories west of the Caspian.

Cyrus, who died 529 B.C., made Persia the most powerful empire in the world. This ancient empire was conquered by Alexander the Great, 333 B.C.

112. Persia is situated between the Caspian Sea and the Persian Gulf. The greater part of the country is table-land, 3000 feet high, bordered on the north, south-west, and south by mountain ranges. The *Elburz Mountains*, on the north, have their greatest elevation in *Mount Demavend* (18,464 ft.).

The plateau consists mainly of an arid and salt desert. The streams, which are few and small, are either absorbed by the deserts or flow into salt lakes.

113. The country near the Persian Gulf is hot, arid, and unhealthy. The date-palm is the chief product. Luxuriant forests clothe the northern slope of the Elburz. The districts bordering on the Caspian are said to be "as beautiful as water, wood, and mountains can make them."

Wheat, rice, cotton, the mulberry tree, sugar-cane, the vine, and dried fruits and gums are the principal products.

Considerable attention is given to the dairy, but the cattle are quite inferior.

Horses, camels, sheep, and goats are reared in large numbers. The wool is of superior quality.

114. The inhabitants comprise various races. Those living a settled life are mostly descendants of the ancient Persians. The nomads are the most numerous, including Turks, Tartars, and Arabs. Mohammedanism is the religion of all.

Towns.—115. *Tehran* (100,000), the capital, is 50 miles south of the Caspian. During the intense heat of summer the city is abandoned by the court and wealthy inhabitants.

Isfahan (150,000), on a high plain 210 miles south of Tehran, is the most populous city of Persia. *Tabriz* (80,000) is an important commercial city. *Bushire* is an important sea-port on the Persian Gulf. *Hamadan* is the ancient Ecbatana. The ruins of *Persopolis* indicate the greatness of the ancient capital of Persia. *Balfarush*, *Meshed*, and *Ispah* are large cities.

116. The principal manufactures are silks, carpets, shawls, cutlery, and leather.

The trade is chiefly with Russia, Great Britain, and British India. British manufactures are extensively imported through Trebizond, on the Black Sea. Internal trade is carried on by caravans of mules.

The chief ruler of Persia is called the Shah, and has absolute power. His head officer is called the Grand Vizier. Persia ranks very low as a military power.

ASIATIC TURKEY.

117. Turkey in Asia forms a part of the Turkish Empire, of which Constantinople in Europe is the capital. (See *European Turkey*, 375.)

This portion of the world is peculiarly interesting. It is the theatre of the early history of the human race, the seat of the most ancient empires of the Earth, and embraces the countries in which most of the events recorded in the Bible occurred.

Various Turkish tribes from Central Asia conquered the country during the Middle Ages.

118. The Asiatic possessions of Turkey are the west of Persia, and include the following divisions:

Asia Minor, *Armenia*, *Syria*, *Kilic*, *Lebanon*, *Al-Jezirah*, and the northern and western portions of *Arabia*.

ASIA MINOR.

119. Asia Minor, or *Asia the Less*, contained several important ancient States, as *Lydia*, *Pontus*, and *Bithynia*. Ancient *Troy*, the overthrow of which by the Greeks is described by Homer, was in the west. The "Seven Churches of Asia" were also in Asia Minor.

120. Asia Minor occupies the peninsula between the Black Sea and the Mediterranean. On the west are the *Archipelago*, the *Dardanelles*, the *Sea of Marmora*, and the *Strait of Constantinople*. The islands are *Cyprus*, *Rhodes*, and others in the *Archipelago*.

121. The interior is a table-land from 2000 to 5000 ft. high, bordered

on the south by the *Taurus Mountains*, and on the north by the *Anti-Taurus*. The rivers are small, but of great historic interest.

The *Kizil-Irmak*, the ancient *Halys*, is the largest river. The *Meander*, flowing into the Archipelago, is noted for its windings; hence the English verb *meander*. Near the *Granicus* Alexander the Great defeated Darius, 334 B.C. Subsequently the conqueror took a violent fever from bathing in the cold waters of the *Cydnus*, which flows from the snow-covered mountains. (See *Collier's Greece*, pp. 98, 99.)

122. The mountain-slopes are cool and humid, and clothed with fine forests, especially near the Black Sea. The tablelands have not sufficient moisture for agriculture, but yield good pasturage. The valleys are very warm and fertile.

123. Coal, copper, and lead are abundant. The vegetable products are varied, including wheat, tobacco, cotton, grapes, figs, and olives. The Angora goat, found in the highlands, yields a fine hair, which is made into shawls. The camel is the chief beast of burden.

124. Mohammedan Turks form the majority of the population. The trade is chiefly in the hands of Jews, Greeks, and Armenians.

There are several political divisions, of which *Anatolia*, in the west, is the most important.

Anatolia means "sunrise;" a name given in consequence of the easterly situation of the country with respect to Europe.

Towns.—125. *Smyrna* (150,000), on the west coast, is the largest and most commercial city. It is regarded as the birth-place of Homer. *Aidin*, in the valley of the *Meander*, is connected by railroad with *Smyrna*, 60 miles distant.

Kaisariéh (40,000), *Scutari* (60,000), immediately opposite Constantinople, and *Brusa* (60,000), are important commercial cities.

Sinope and *Trebisond* are ports on the Black Sea. *Antioch* is famed for its goats. *Tarsus* is noted as the birth-place of St. Paul. *Adrianople* occupies the site of ancient *Halicarnassus*, the birth-place of Herodotus. This town contained the celebrated tomb of *Mausolus*. *Konieh*, the ancient *Iconium*, manufactures carpets, and has considerable trade. *Meerschaum* is obtained in its neighbourhood.

126. The exports of Asia Minor include figs, raisins, wall-nuts, silk, cotton, olive oil, gums, drugs, goats' hair, and skins. Various manufactured goods are imported.

ARMENIA, KURDISTAN, &c.

127. *Armenia* was probably the first country peopled after the Deluge. The Garden of Eden is supposed to have been near the sources of the *Euphrates* and *Tigris*.

The surface consists of elevated tablelands and mountains, intersected with deep valleys. The *Euphrates* and *Tigris* have their origin in the mountains: the *Kura* and its tributary the *Araxes*, flows easterly to the Caspian. *Lake Van* is in the south.

128. The winters in the highlands are long and severe, attended with heavy falls of snow. The valleys are warm and pleasant.

Corn, wheat, rye, millet, and naphtha are plentiful. The vegetable products are grain, tobacco, cotton, flax, grapes, and other fruits. The greater part of the country is best suited to grazing.

Towns.—129. *Erzeroum* (35,000), on an elevation of 5000 feet, is the largest and most commercial city. The trade between the ports on the Black Sea and Northern Persia passes through it. It is also the halting-station for caravans between Mecca and Teheran.

Kars (12,000) is on a plain 6000 feet above the sea. After a heroic defence, conducted by General Williams, a native of Nova Scotia, *Kars*, reduced by famine, was surrendered to the Russians in 1855.

130. *Kurdistan* corresponds nearly with ancient Assyria. It is south of *Armenia*, and east of the *Tigris*. In the south-west are low plains, but the surface and products generally resemble those of *Armenia*. Gall-nuts of the finest quality are among the products.

Towns.—131. *Van* (40,000), a fortified town on the south-eastern shore of *Lake Van*, has antiquities attributed to *Semiramis*, an ancient queen of Assyria. Its cotton manufactures are of considerable importance. *Mosul* (40,000), on the right bank of the *Tigris*, is near the site of ancient *Nineveh*. (See *Asia*, 56.) It was formerly renowned for its muslins, a fabric which took its name from this town. *Erbil*, in the country east of *Mosul*, is the ancient *Arbela*, which gave name to the final battle in which Alexander defeated Darius, in 331 B.C. *Diarbekir* has some cotton and silk manufactures and copper-works.

132. *Al-Jezirah* corresponds to ancient Mesopotamia, or "the country between the rivers." It is called in the Bible *Padan-aram*. It comprises the northern portion of the low plain between the *Euphrates* and *Tigris*.

Irak Arabi, south of *Al-Jezirah*, between the rivers, answers to ancient Babylonia.

133. A large portion of these countries is desert. In summer the heat is very great, and there are hot, suffocating winds. The winter nights are cold in the north.

Rice, vines, and date-palms flourish along the borders of the rivers. Ostriches, wild asses, and plundering Arabs wander over the interior.

Towns.—134. *Orfah*, in the north of the plain, formerly called *Edessa*, was the capital of a kingdom founded by the Crusaders.

Bagdad (65,000), once the capital of the Saracen Caliphate, is situated on both sides of the *Tigris*. Its trade has greatly declined. This city is familiar as the scene of the "Arabian Nights' Entertainments."

Hillah, on both banks of the *Euphrates*, is within the bounds of the ancient city of *Babylon*. (See *Asia*, 57.)

Bassoran (60,000), on the *Shat el-Arab*, near the Persian Gulf, is the great emporium of trade between Asiatic Turkey and India.

SYRIA.

135. Syria is, historically, one of the most interesting countries in the world embracing the ancient *Land of Israel*, *Phœnicia*, and *Syria Proper*. It was added to the Turkish Empire in 1517. It is situated south of the *Taurus Mountains*, between the *Mediterranean* and the *Euphrates*.

Ancient *Phœnicia* comprised the northern portion of the maritime country; the *Land of Israel*, the southern.

136. The surface consists of a narrow plain of varying width next the sea; the mountain ranges of *Lebanon* and *Anti-Lebanon*, near the west side, continued southerly by

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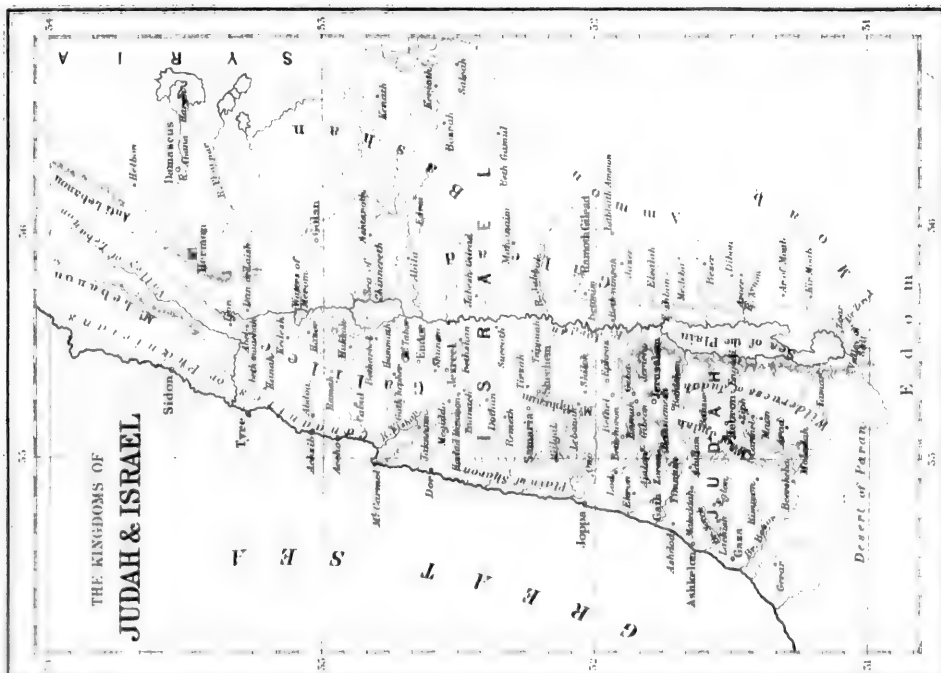
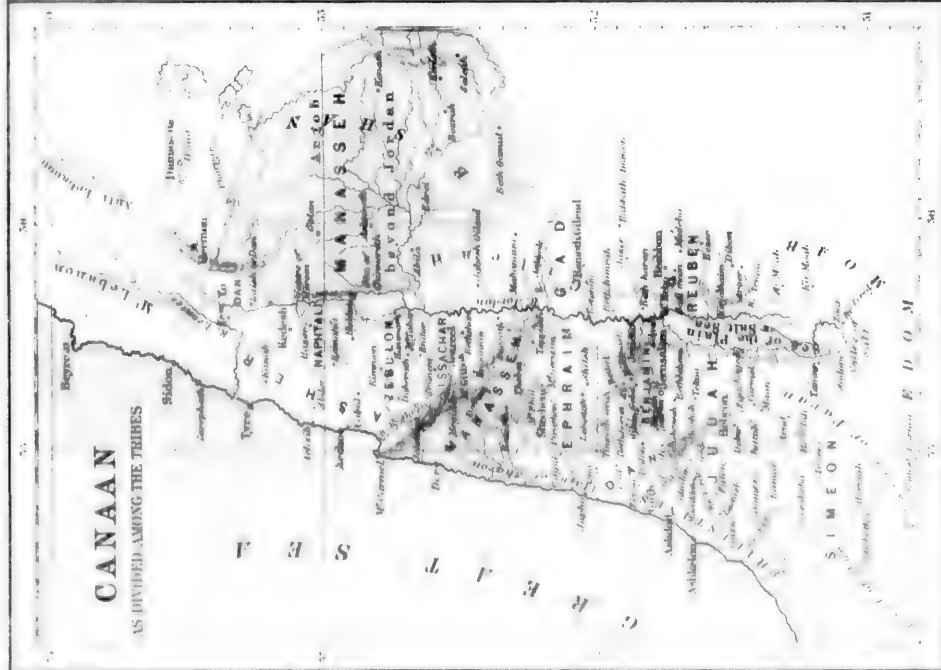
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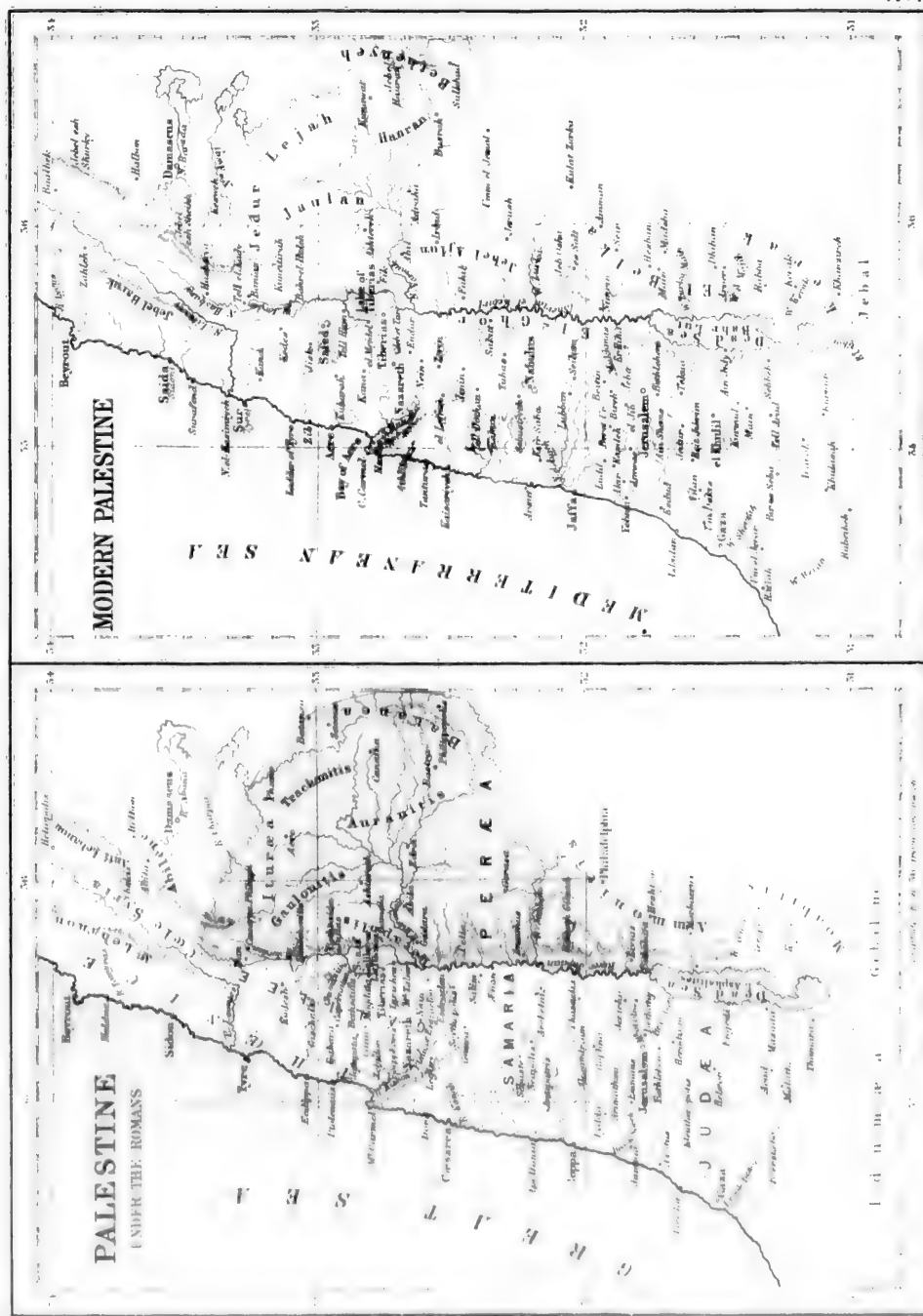
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irregular hills and low mountains; and a vast plain on the east known as the Syrian Desert. Between the ranges of Lebanon and Anti-Lebanon is a beautiful valley anciently called *Cœle Syria*, or Hollow Syria, from which the *Litany* or *Leontes* flows south, and the *Orontes* north.

137. There are many very fertile tracts; but through want of cultivation, much soil that was once fruitful is now nearly barren. Excepting the cold heights of Lebanon, the climate is generally warm temperate. Want of rain is the chief natural defect of the country.

The products are grain, cotton, the mulberry, olives, grapes, figs, and other fruits. The mountains of Lebanon were once famed for their majestic cedars. Only a few of these ancient trees now remain.

138. The inhabitants are chiefly Turks, Arabs, and Greeks. The wandering Arabs of the desert are called Bedouins. They live by their flocks and by plunder. The insecurity of property occasioned by these robbers is a serious obstacle to the prosperity of the country.

The Maronites and Druses are two hostile communities inhabiting the Mountains of Lebanon. The former claim to be Christians, deriving their name and tenets from Maron, who lived in the fifth century. The Druses are heretical Mohamr dans, originating with Hakim, an Egyptian who styled himself a prophet.

Towns.—139. *Aleppo* (80,000) is situated midway between the

Mediterranean and the Euphrates, in a beautiful and fertile district on the borders of the desert. It was desolated by an earthquake in 1822, when 20,000 inhabitants were buried in the ruins. It has silk and cotton manufactures.

Damascus (110,000) is about 50 miles from the Mediterranean, surrounded by a well-watered and fertile plain, clothed with orchards. It was formerly famed for its sword-blades. Travellers speak of the distant view of the city as most enchanting. (See 54, 55.)

140. *Beyrout* (12,000), on the coast, is the port of Damascus, with which it is connected by a macadamized road. In the neighbourhood are extensive mulberry groves and vineyards.

Antioch (27,000) was formerly a large and wealthy city, containing 400,000 inhabitants. Here the disciples were first called Christians.

Tripoli (18,000) is an important port. It is noted for beautiful gardens. Sponges and soap are exported. (See *Gazetteer*.)

Acre (10,000) is a small sea-port, marking the southern limit of ancient Phœnicia. It is noted for its numerous sieges. (See *Gazetteer*.)

Tyre and *Sidon*, the chief cities of Phœnicia, are represented by the small towns *Scor* and *Saida*. (See *Gazetteer*.)

Hamah (40,000) and *Homs* (30,000), on the Orontes, are important towns.

141. Agriculture and the care of flocks are the chief pursuits. Manufactures are greatly neglected. Commerce is impeded through want of roads. Merchandise is conveyed on the backs of mules and camels.



LAKE OF TIBERIAS.

PALESTINE.

142. Palestine is now the most common name of the ancient Land of Israel. This name is supposed to be derived from the Philistines, a people who once inhabited the south-west.

The country has been known by various other names, as *Canaan*, and the *Holy Land*. It became a part of the Turkish Empire in 1517.

143. The Israelites, under Joshua, entered the Land of Promise and

dispossessed the original inhabitants in 1452 B.C. The country was then apportioned amongst the various tribes, as shown on Map of *Canaan*. (See *Joshua* i.-xix.)

In 975 B.C. the country was divided into the kingdoms of Judah and Israel, as shown by Map of the *Kingdoms of Judah and Israel*. (See 1 *Kings* xii.)

144. In 721 B.C. the kingdom of Israel was broken up, and the inhabitants carried into captivity by Shalmaneser, King of Assyria. Other inhabitants were placed in the country, who were subsequently called Samaritans. (See 2 *Kings* xvii.)



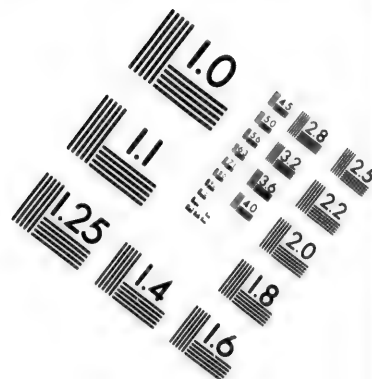
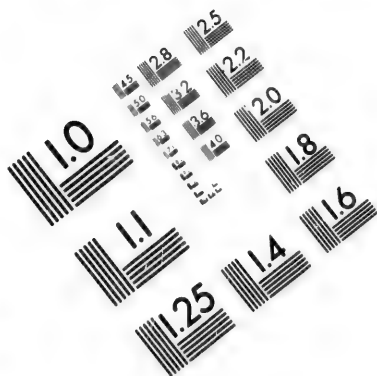
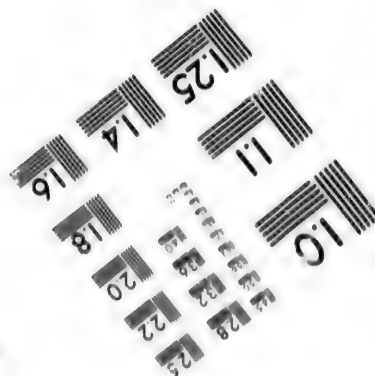
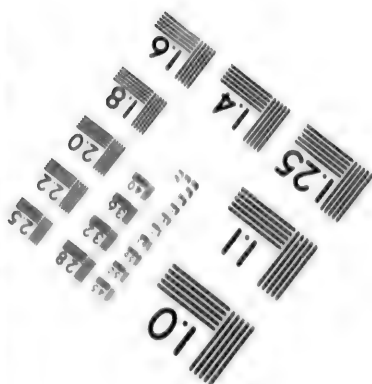
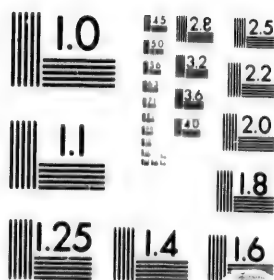


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In 606 B.C. the inhabitants of Judah were carried to Babylon, where they spent a captivity of seventy years. In 536 they were permitted to return to their own land, by Cyrus, King of the Persians. (*See Ezra i.*)

145. Palestine became subject to Alexander the Great, 333 B.C. It then fell to the Ptolemys of Egypt, and afterwards to Antiochus of Syria. The inhabitants were cruelly treated by the latter and his successors; from whose power a family of patriots called the Maccabees, after hard struggles, delivered their country. (*See Baile's Bible History, and Josephus.*)

146. The Romans annexed Palestine to their great empire about 63 B.C., and divided it into four provinces, *Judaea, Samaria, Galilee, and Peraea* (as in Map of *Palestine under the Romans*). This was the condition of the country in the time of our Lord.

The Jews having rebelled against the Romans, an army under Titus destroyed their capital, Jerusalem, and mercilessly slaughtered thousands of the inhabitants, 70 A.D. From this time the Jews have been scattered over the whole world, and their ancient land has been occupied by other people.

147. Palestine fell a prey to the Mohammedans in the year 636. The persecutions to which Christian pilgrims were subjected in the Middle Ages roused the indignation of the Christian powers of Europe, and vast armies were sent to rescue the Holy Land from the Mohammedans. The expeditions sent for this purpose, known in history as the Crusades, had a temporary success; but eventually the country again fell under the Mohammedans.

148. Palestine is situated on the east of the Mediterranean, and south of the Mountains of Lebanon. It is about two-thirds the size of Nova Scotia. Its length from north to south is 180 miles, and the breadth 75 miles.

The surface is generally mountainous. The mountains are low and broken. *Mount Hermon* is on the northern border; *Carmel* overlooks the coast; the *Mountains of Moab* are east of the Jordan. The rocks are chiefly limestone, and the country abounds in caves, to which frequent reference is made in the Scriptures.

149. Palestine consists of two natural divisions, separated by the low valley of the Jordan. The western section is divided into the northern and southern highlands by the Plain of Esdraelon—the battle-field of the country—extending from the foot of Carmel to the valley of the Jordan. The *Jordan*, flowing from the Mountains of Lebanon southerly through lakes *Merom* and *Tiberias* into the *Dead Sea*, is the only river. Including windings, it is about 200 miles long. (*See Asia*, 33, 35, 37.)

150. The soil of Palestine was once very fertile. The hill sides, carefully terraced, were clothed with vineyards and olive groves, and the valleys with grain. The terraces are now broken down, and the rains of centuries have washed away the soil, leaving nothing but the gray rocks. Some of the valleys and plains are yet very fruitful. The heat of summer is not intense, except in the valleys. The winters are mild. Scarcity of rain is the worst feature in the climate.

151. The products are grain of various kinds, olives, grapes, figs, pomegranates, and other fruits. Large trees are almost unknown in Palestine. The most important are terebinths, a few aged oaks, and an occasional palm.



OLIVE TREE, FLOWER, AND FRUIT.

Wild flowers are profuse in spring, especially a white flower called the *Star of Bethlehem*, and scarlet anemones, tulips, and poppies.

The settled inhabitants are collected into villages and towns, as solitary dwellings would be exposed to attack from plundering Bedouins. They are principally Mohammedans and Greeks.

Towns.—152. *Jerusalem* (25,000), the capital, is situated on the edge of a rocky plateau, 30 miles from the Mediterranean. Its site, 2200 feet above the level of the Mediterranean, and 3500 above the *Dead Sea*, has deep ravines on all sides except the north-west,—the Valley of Gihon on the west, Hinnom on the south, and Jehoshaphat or Kidron on the east. It is also divided into two ridges,—Mount Zion on the west, and Mount Moriah on the east. The Mount of Olives is on the east of the city beyond the Valley of Kidron. The most important building in the city is the Mosque of Omar, on the site of the ancient Temple.

153. *Bethlehem* (4000), six miles south of Jerusalem, is the city of David, and the birth-place of our Saviour. It contains a large monastery, built over a cave called the "Cave of the Nativity."

Bethany is a small village two miles from Jerusalem, on the eastern slope of the Mount of Olives.

Hebron (7000), 16 miles south of Jerusalem, is noted for the cave of Machpelah, where Abraham was buried. The Mohammedans have built a large mosque over the cave, which they hold in great veneration.

154. *Jaffa* (15,000), the ancient Joppa, was the principal port of the Jews. Its harbour is small and insecure. Its exports are soap, grain, and fruit. The city is noted for its extensive and fruitful gardens, which are irrigated from wells.

"In March and April those gardens are indeed enchanting. The air is overloaded with the mingled odour of orange, lemon, apple, apricot, quince, plum, and china trees in blossom. The people then frequent the groves, sit on mats beneath their grateful shade, sip coffee, smoke the argels, sing, converse, or sleep till evening, when they slowly return to the town."

155. *Gaza* (15,000) is in the south-west. It trades largely in soap, which is sent to Egypt on camels.

Nazareth (3000), north of Mount Tabor, is noted as the place where our Saviour spent the greater part of his life on Earth.



BETHLEHEM.

Nablous (8000), the ancient Shechem, is in a fertile valley, clothed with fruit trees, between Mounts Ebal and Gerizim (*Judges ix. 7-21*).

Safed (5000), elevated 2050 feet, was utterly destroyed by an earthquake in 1837.

On the east of the Jordan are many ancient towns and ruins, as *Bathanyeh*, *Kunawât*, *Borrah*, *Salcah*, and *Edrei*, built of massive hewn rock. Some of them have a few inhabitants; others, deserted by man, are the home of wild beasts. (*See Porter's Giant Cities of Bashan*, and *Deut. iii.*)

ARABIA.

150. Arabia, according to some, signifies *a waste*, expressing the prevailing physical character of the country; according to others, it comes from a word signifying *a wanderer*, in allusion to the habits of many of its inhabitants. Its history is interesting. The forty years' wanderings of the Israelites were in the north-west.

Mohammedanism originated in the west of Arabia early in the seventh century, and for several centuries Mohammedan Arabs ruled all Western Asia, Northern Africa, and Spain.

151. The Wahabees, or Mohammedan reformers of Arabia, originated with Mohammed-alm-Abd-el-Wahab, about the middle of the eighteenth century. A Wahab dynasty was established in Nejed, a state in the interior, and nearly the whole of Arabia was brought under its power. Encroaching upon the territories claimed by Turkey, the Wahabees brought upon themselves the vengeance of the Viceroy of Egypt. In 1818, an Egyptian army invaded Nejed, and destroyed Deraiah, the capital. The Imam of Nejed was sent to Constantinople, where he was beheaded. Subsequently, after various conflicts, the Egyptian Pasha was expelled, and the Wahabee dynasty restored. (*See Pulgrave's Arabia*.)

158. The coasts of Arabia are generally low and sandy; the interior consists principally of a high plateau, bordered with low mountain ranges. A ridge extending southerly from Palestine, terminates in the rocky peaks of *Horeb* (5593 feet) and *Sinai*. Parched deserts cover the greater part of the interior. There are no large streams.

159. Many parts along the coast are very fertile, and the deserts are also interspersed with fertile oases. The heat of the low coasts is intense; on the table-lands it is more temperate.

A large part of Arabia is within the rainless region extending from the west coast of Africa to the east of Asia. In other portions rainy and dry seasons alternate. Here the water-courses during one season

present rushing torrents, and during the other dry rocky channels, called *wadys*.

160. A hot, suffocating, and injurious wind, called the *simoom*, often blows from the desert. It is of short duration, and to escape its effects the inhabitants cover their faces and lie prostrate. The camel also kneels down and buries its nose in the sand.

161. There are no extensive forests in Arabia. The most valuable trees are the date and other species of palms, gum acacias, and balsam trees. The deserts produce succulent grasses, and a little plant called *samh*, which bears a small red seed: the former nourish numerous flocks and herds; while the latter, with dates, gives food to the wandering Arab.

The cultivated products are coffee, cotton, indigo, tobacco, millet, spices, and tropical fruits. The cultivated districts require irrigation.

162. Wild animals are not numerous. The deserts abound with wild asses and ostriches. The domestic animals are horses, camels, dromedaries, sheep, and goats. The horses of Arabia are famed for beauty and fleetness.

The wandering Arabs of the deserts are called Bedouins.

163. Arabia includes several political divisions, with no very precise limits. The principal are *Hedjaz*, *Yemen*, *Hadramaut*, *Oman*, *Zachsa*, and *Nejed*.

164. *Hedjaz*, or "the Land of Pilgrimage," embracing the center portion of the coast on the Red Sea, belongs to Turkey.

Mecca (60,000), the capital, 60 miles from the sea, is in a desert region. It is noted as the birth-place of Mohammed (571 A.D.) Mohammedans regard it as a holy city, and all are required to visit it at least once in their lives. Consequently the city swarms with pilgrims, who generally, combining trade with religion, carry merchandise to sell on their route.

Jedda, on the Red Sea, is the port of Mecca. **Medina** (8000), 250 miles north of Mecca, and 130 miles from the coast, contains the tombs of Mohammed, his daughter Fatima, and of the caliphs Abubeker and Omar.

165. Yemen, sometimes called Happy Arabia, is in the south-west. It produces the finest coffee in the world.

Sana (40,000), the capital, in a beautiful inland valley, has an extensive trade in coffee. **Mocha** (7000), is a fortified port on the Red Sea. It gives its name to the best coffee, which, with dates and gums, is largely exported.

166. Aden is a small peninsula in the south-west, belonging to Great Britain.

The city **Aden** (40,000) stands in a hollow, enclosed with rocky cliffs. It is very strongly fortified, and is an important coaling station for steamers. The coal is brought in vessels from England.

167. Oman is a maritime district in the south-east. It is subject to the Imam or Sultan of Muscat, whose territories embrace portions of the coast of Persia and Eastern Africa.

Muscat (40,000), the capital, is an important port on the Gulf of Ormuz. It exports hides, horses, and dates.

168. Nejed is an extensive country in the interior, ruled by the Wahabees. Its horses are said to be much superior to those of other parts of Arabia. Their owners are greatly attached to them, and refuse to sell them.

Riad is the present capital. (See 167.)

BRITISH INDIA, OR HINDOSTAN.

169. Hindostan, or *Land of the Hindoos*, embraces a part of the region often called the East Indies. The country has long been celebrated for the richness of its vegetable and mineral products, and also for its large wild animals.

170. The power of Great Britain in India originated with the British East India Company, organized with exclusive privileges in the year 1600. In 1639 the Company acquired its first territory, consisting of about five miles of coast where Madras now stands. Other possessions were soon acquired; large warehouses called factories were erected; and the prosperous trade was extended.

171. A large part of the country was at this time included in the Mogul Empire, which had been established in 1525. The chief ruler was known as the Great Mogul. His empire was divided into provinces ruled by deputies called Nabobs, and the provinces were divided into districts governed by officers called Rajahs.

172. In 1686, the agent of the East India Company and a number of men in his employ were sailing down the Hooghly River, having been

expelled from a factory on the river by the Nabob of Bengal. Exhausted with the burning heat, they landed near a small village, and took refuge beneath a large tree which attracted them with its friendly shade. Pleased with the situation, they resolved to form a new settlement. Accordingly a grant was obtained of a small territory, and factories were erected, which have since expanded into the populous and wealthy Calcutta, the capital of British India.

173. In 1757, Calcutta was captured and plundered by the Nabob Suraja Dowlah. Many of the English were taken prisoners and thrust into a close room called the *Black Hole*, where most of them perished in a single night from breathing the impure air. Calcutta was soon afterwards retaken by the distinguished Clive. In the same year Clive checked the power of France in India by the battle of Plassey. (See *British History: George II.*, p. 284.)

174. British power now advanced rapidly, nor was it always by the most just and honourable means. Native princes were conquered and their treasures plundered; others, alarmed, poured out to the victors their diamonds and gold, as the price of peace and protection. The Mogul Empire was broken up by internal dissensions, and portion after portion was annexed to the British territories. The first Governor-General was Warren Hastings, appointed in 1773. (See *British History: George III.*, p. 204.)

175. In 1833 the Company's monopoly was withdrawn, and the country was thrown open to general commerce. The Indian Mutiny, a rebellion of the native troops called *sepoys*, which began in 1857, presents many tales of savage butchery and outrage. On the restoration of peace, the government of India was transferred from the Company to the British Crown. (See *British History: Victoria.*)

176. About half of Hindostan, or the triangular peninsula, is in the Torrid Zone. It has the Bay of Bengal on the east; the Arabian Sea on the west. *Cape Comorin* is the southern point.

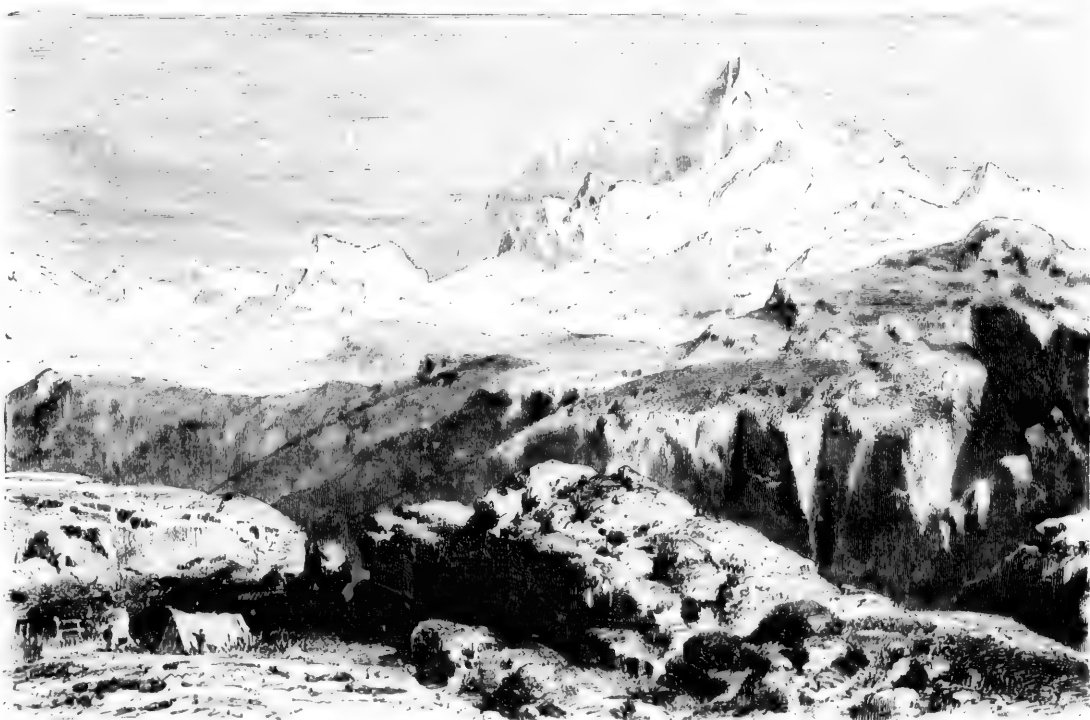
Hindostan extends about 1900 miles north and south, by 1500 miles east and west. The coast line is about 4000 miles in length. The east coast is sometimes called the *Carnatic*; the south-eastern coast is called the *Coromandel Coast*; the south-western, the *Malabar Coast*.

177. The *surface* in the northern half of the country is greatly diversified. On the north are the gigantic and unrivalled *Himalayas*, peak rising above peak far beyond the line of perpetual snow. The lower ridges are often enveloped in clouds, on which the higher summits, projected against the blue sky, seem to rest. (See *Asia*, 24.)

178. South of the elevated region are vast plains, comprising two general slopes,—the basin of the *Ganges* inclined to the south-east, and the basin of the *Indus* to the south-west. The former slope is much the more extensive.

179. The greater part of the peninsula is elevated table-land called the *Deccan*, which is bordered by mountain ranges,—the *Vindhya* (6000 feet) on the north, the low *Eastern Ghats* on the east, and the elevated *Western Ghats* on the west. The greater portion of the Deccan has an easterly slope.

180. The principal rivers of Northern India are the *Ganges*, *Brahmaputra*, and *Indus*, with their tributaries. The *Sutlej*, flowing into the Indus, and its four principal tributaries give the name of Punjab, or *Five Rivers*, to the country through which they flow.



THE HIMALAYAS.

The principal rivers of the Deccan are the *Mahanuddy*, *Godavery*, *Krishna*, and *Cauvery*, on the east; and the *Nerbuddah* on the west. Many of the rivers are unnavigable on account of the rapidity of their current. (See *Asia*, 31.)

181. Much of the **soil** is very fertile, especially the valleys of the Ganges and Punjab. Adjoining Afghanistan is an extensive desert.

Excepting the mountains and their slopes, where there is every variety of temperature according to the elevation, the climate is tropical. The year includes three seasons,—the hot from March to June, the rainy from June to October, and the temperate during the remainder of the year. The rainy season is occasioned by the excessive moisture of the south-west monsoons. (See *Physical Geography*, 95.)

182. The **minerals** are iron, tin, copper, gold, diamonds, rubies, amethysts, and other precious stones.

Except on the mountain slopes, the **vegetation** is tropical and profuse. Among the trees are teak, sandal-wood, ebony, bamboo, banyan, and many species of palms. At the height of 11,000 feet the trees are dwarfed; and the region of perpetual snow is found at the height of 15,000 feet. The

low region near the mouth of the Ganges is covered with almost impenetrable thickets, called *Sunderbunds*.

The cultivated plants include rice and cotton—the one furnishing the chief food, the other the clothing; also sugarcane, millet, cocoa-nuts, tamarinds, indigo, coffee, opium, ginger, with most of the tropical fruits and spices.

183. Wild **animals** are numerous, including the elephant, rhinoceros, buffalo, tiger, panther, and many others. Tiger hunting in the jungles or thickets of the Sunderbunds is a dangerous and exciting sport. The elephant is often tamed and used as a beast of burden.

184. The **inhabitants** are estimated at 180,000,000, or six times the population of the British Isles. The European portion of the population, chiefly of British origin, numbers about 80,000. Over three-fourths of the inhabitants are Hindoos. There are many Mohammedans in the western part of the country.

185. The religion of the Hindoos is a superstitious and cruel pagan system. They worship imaginary gods, as *Brahma* and *Vishnu*; also the Ganges and various animals. The British Government has prohibited many of their horrible practices. Formerly it was customary when a man died, to burn his widow on a funeral pile; and women

threw their children into the Gangs, believing that they would thus please their god.

186. An important feature of Hindooism is the division of the people into four castes,—the Brahmins or priests, holding the highest rank, the soldiers, the merchants, and the common labourers. The castes are not allowed to intermarry or even eat together, and no one can rise above the station in which he was born.

187. British India is divided into three Presidencies—*Bengal, Madras, and Bombay*. There are also several dependent or tributary States.

PRESIDENCY OF BENGAL.

188. This Presidency occupies the north and centre of Hindostan, and part of Further India. It is much the largest and most populous division. It contains fifteen cities with 100,000 inhabitants and upwards.

Towns.—189. *Calcutta* (500,000), the capital, is situated on the Hoogly, 100 miles from its mouth. It is strongly fortified, and is a great commercial city.

Moorsheadabad (147,000) is very unhealthy. *Scrapore* is a noted mission station, 14 miles north of Calcutta. *Patna* (284,000) has an extensive trade in rice, opium, and indigo.

Benares (200,000) is famous for its trade in diamonds. It is accounted by the Hindoos the most holy city in the world, and is said to contain one thousand Hindoo temples and three hundred and thirty Mohammedan mosques.

"Benares is visited as one of the holiest places in the world by crowds of pilgrims, many of whom are rich and aged, and who come on purpose to die within its precincts. Beggars and priests swarm, who subsist upon their offerings. Huge Brahmin bulls are its other inhabitants, protected and revered as sacred animals. They freely roam the streets and bazaars, take what they like from the vegetable stalls, butt whom they choose, and are certain of expiring only of old age, unless kidnapped by some unscrupulous Mohammedan butcher to be turned into beef for the English." (*Milner*.)

Allahabad is also a sacred city, visited annually by 200,000 pilgrims.

190. *Cawnpore* is noted for the massacre of the English in 1857 by Nana Sahib. *Farrukabad* (132,000) is a commercial city; and *Hurdwar* (100,000) is a sacred city, noted for its great annual fair, attended by 250,000 traders and pilgrims. *Fyzabad* (100,000) is a large town, said to be declining. *Lucknow* (300,000) is noted for its defence against the sepoys during the Mutiny; the death of General Havelock in the siege; and the final relief of the garrison by Sir Colin Campbell.

191. *Agra* (125,000) is the ancient Mogul capital. *Delhi* (153,000) was the capital after Agra. The heir of the Mogul resided here as a pensioner until the close of the late rebellion, when he was banished for his share in the Mutiny. Delhi is connected with Calcutta by railway. *Meerut* is noted as the place where the Mutiny began in 1857. *Rampur* (100,000) is a mud-built town.

192. *Lahore* (120,000) was the former capital of the Panjab. *Amritsir* (115,000) and *Mooltan* are important commercial cities.

Peshawar is a fortified town at the entrance of the Khyber Pass. *Nagpore* (112,000) has important manufactures. *Juggernaut* is noted for its temple of Vishnu. Its main street is wholly devoted to religious edifices.

PRESIDENCY OF MADRAS.

193. Madras occupies the southern portion of the peninsula. The climate on the east coast is the hottest in India;

the west coast is the most humid, being most exposed to the rainy monsoon. (*See Physical Geography*, 95.)

Towns.—194. *Madras* (720,000), on the Coromandel coast, is the capital of the Presidency and the largest city in India. It is situated on a surf-beaten shore, without a harbour. Large vessels lie in the roadstead, between which and the shore goods and passengers are conveyed in boats.

Tanjore (80,000), 212 miles south of Madras, has silk and cotton manufactures. It is noted for its great pagoda or heathen temple.

Trichinopoly is also a manufacturing town and a military station.

Arcot was the former capital of the Carnatic. *Calicut*, on the Malabar coast, was the first port visited by Vasco de Gama in 1498. It was formerly noted for its calicoes and for its great commerce.

PRESIDENCY OF BOMBAY.

195. This division, situated on the western side of the country, is the smallest of the three Presidencies.

196. *Bombay*—*bom*, "good;" and *bahia*, "harbour"—(550,000), the capital of the Presidency, is upon a small island connected with the mainland by a causeway. It has an excellent harbour and a large trade. Railways are in course of construction to connect Bombay with Calcutta and Madras. The island of Elephanta, celebrated for its cave temples, is seven miles from Bombay.

Ahmedabad (134,000) is a military station. *Surat* (130,000) is noted as the place where the East India Company erected its first commercial establishment. *Hyderabad* was the capital of Scinde, and *Punah* (75,000) of the Mahratta Empire.

DEPENDENT STATES.

197. The dependent States are ruled by native princes, more or less subject to British control. The following are the most important:—

198. *Hyderabad*, occupying a central portion of the Deccan, is about five times as large as Nova Scotia. It has a deep black soil adapted to the growth of cotton. It was formerly famed for diamonds.

Hyderabad (200,000) is the capital. *Golconda* is a small place where diamonds were cut and polished. *Aurangabad* (90,000), the favourite residence of Aurungzebe, the last Mogul Emperor, contains many mosques. *Ellora* has remarkable cave temples.

199. *Indore* lies north of the Vindhya Mountains. *Gwalior* is a neighbouring state.

Rajpootana includes a number of states on the east of Scinde. A large part of the country is desert.

200. *Cochin* and *Travancore* are fertile states along the south-west coast of the peninsula. The Rajah of Travancore presented Queen Victoria with a splendid ivory throne.

Mysore, the former dominion of Hyder Ali and his son Tippoo Saib, is now under direct British control.

201. *Gujerat* is a large and fertile state north of the Gulf of Cambay. Cotton is the staple product. The climate is unhealthy.

Cutch is a peninsula on the north of the Gulf of Cutch. On the north and east is a low region called the *Rann*, covered by the ocean during the south-west monsoon; at other times it is dry.

Baroda (140,000) is a large commercial city in Gujerat. *Cambay* has lost much of its former importance.

INDEPENDENT STATES.

202. **Cashmere**, about the size of Prince Edward Island, consists of a beautiful elevated valley and the surrounding Himalaya slopes, north of the Punjab. It is watered by the Jhelum, whose narrow valley is the only practicable pass from the Punjab in winter. It yields nearly all the products of the temperate zones. Cashmere shawls, made from the hair of the Thibet goat, have sometimes sold in Europe for \$400 each.

Cashmere, or *Serinagar* (40,000'), 5,500 feet above the sea, is the capital.

203. **Nepaul** and **Bootan**, each three times as large as Nova Scotia, occupy the eastern half of the Himalaya slopes, along the upper courses of the Ganges and Brahmapootra. The surface is very rugged, embracing some of the highest peaks of the Himalayas, varied with deep valleys which are very fertile. Polyandry is said to prevail in these States.

Katmandoo (50,000') the capital of Nepaul; *Tassilsodon*, of Bootan.

204. **Pondicherry** (30,000), a maritime town 85 miles south of Madras; *Yanaon*, at the mouth of the Godavery; *Chanderiaynore*, on the Hoogly above Calcutta; and *Mahe*, on the Malabar coast, belong to France.

205. The small territory of *Goa*, on the Malabar coast, belongs to Portugal.

The old town of Goa is now in a state of decay. *Panjim*, or *New Goa* (20,000), is the present capital.

206. The chief **pursuits** in Hindostan are agriculture and manufactures. The Hindoos excel in the manufacture of shawls, carpets, silks, and muslins.

The chief exports are cotton, opium, coffee, sugar, rice, indigo, pepper, ivory, silk, and shawls. Various manufactured goods are imported.

There are nearly three thousand miles of railway in Hindostan, besides extensive canals.

207. The **government** is vested in a Governor-General and Council, resident in Calcutta. There is also in the British Government a Secretary of State for India.

208. Previous to the late rebellion in India, the Governor-General was appointed by the East India Company. He is now appointed by the Crown.

The native governments of India are despotic and oppressive.

The British Government keeps a large army in India, consisting partly of British soldiers and partly of natives called *sepoys*.

FURTHER INDIA,

OR, INDIA BEYOND THE GANGES.

209. Besides the names given above, this country is sometimes called *Chin-India* and *Indo-China*. It embraces the peninsular region between the Bay of Bengal and the Gulf of Tonquin. (*See Gazetteer.*)

The interior is not well known. There are numerous mountain ranges, extending north and south, with well-watered and fertile valleys intervening. The chief rivers are the *Tonquin*, *Mekong*, *Menam*, *Salween*, and *Irrawaddy*.

210. The **climate** resembles that of Hindostan, but is

more humid. The north-east monsoon brings rain to the east coast; the south-west, to the west coast. The eastern side is subject to a violent wind called the *typhoon*.

211. The **vegetable** products and **animals** are similar to those of Hindostan. The forests yield teak, ebony, betelnuts, and valuable gums. They also abound in troops of monkeys, herds of elephants, buffaloes, and other large animals.

212. In the Malay Peninsula the inhabitants belong to the Malay race, and are generally Mohammedans; the Mongolian race and Buddhism prevail throughout the rest of the country. Pagodas or idol temples are very numerous, some of which are large and costly.

213. The chief divisions are the *British Possessions*, *Burmah*, *Siam*, *Laos*, *Malaya*, and *Anam*.

214. The **British Possessions** are on the western side of Further India, and form part of the Bengal Presidency. They include *Assam*, *Arakan*, *Pegu*, *Martaban*, and *Tenasserim*, which were obtained from Burmah during the present century; and the *Straits Settlements*, comprising *Wellisley* and *Malacca*, in the Malay Peninsula; *Penang* or *Prince of Wales Island*, at the northern entrance of the Strait of Malacca; and *Singapore*, at the southern.

The cultivation of the tea-plant has been introduced into Assam with much success.

215. The chief towns are *Prome* (30,000'), *Rangoon*, *Akya*, *Maulmain*, *Martaban*, *Mergui*, *Georgetown* (45,000) on Penang, and *Singapore* (50,000) on the Island of Singapore. Singapore is an important commercial town, being a great entrepôt for European and Asiatic goods.

216. **Burmah** has been stripped of a large portion of its territories on the south and west by the British. (*See British History: George IV., 1826; and Victoria, 1852.*)

The country is rich in minerals, including gold, silver, iron, lead, rubies, and sapphires. Petroleum springs yield large quantities of mineral oil.

Rice and millet are the chief food.

Ava (50,000') is the capital. It was nearly destroyed by an earthquake in 1839. *Megung* is a fortified town in the neighbourhood of amber mines.

217. **Siam** is the most important of the native States. The forests yield benzoin and gamboge. Rice, millet, and maize are important products. Birds' nests, made of a glutinous substance, are regarded as delicious food. Animals of white colour are regarded with religious veneration, and a white elephant is an object of the highest reverence.

Bangkok (300,000'), the capital, is a large commercial town on the Menam. The majority of its inhabitants live in bamboo huts, many of which are built on floating rafts in the river.

218. The **Malay Peninsula** has extensive forests. Gutta percha is an important product. A large part of the country is divided amongst native tribes, who were formerly noted pirates.

219. **Anam** is a large and fertile country, including *Tonquin* in the north, *Cochin China* in the east, and part of *Cambodia* in the south. The country produces cinnamon of the finest quality. Tonquin is rich in minerals.

The French have taken possession of a territory on the south coast.

Hue (100,000'), the capital, is very strongly fortified. *Kesho* (100,000) is an inland town of Tonquin. *Saigon* (180,000'), the capital of the French possessions, is a large town near the mouth of the Mekong.

220. **Agriculture**, though greatly neglected, is the chief employment in Further India.

The exports are cotton, gamboge, gutta percha, catechu, stick lac, benzoin, teak, pepper, coffee, cardamom, cassia, wax, feathers, ivory, and gold.

Tea is imported from China, and various manufactured goods from Great Britain.

221. The **governments** of the native States are of the most despotic kind. The kings are revered as gods, and have unlimited power over the property, liberty, and lives of their subjects. The courtiers approach their sovereign by creeping on all fours.

JAPAN.

222. The name of this country is said to mean *Sun-Source* or *Land of the Rising Sun*, applied with reference to its position in relation to China.

223. Japan was accidentally discovered by the Portuguese in the year 1542. In 1549 the Jesuit missionary Francis Xavier arrived with a band of priests, and in a few years their converts numbered nearly two millions. Fearful persecution soon arose. In 1637, thirty-seven thousand persons were put to death in a single day. The priests and all other foreigners were expelled. Decrees were made that no native should go abroad, and that those then absent should not return on pain of death. To signify their hatred and utter rejection of Christianity, the annual ceremony of trampling on the cross was instituted.

224. At the same time trade with foreigners was prohibited, excepting only the Chinese and Dutch. The Dutch were restricted to two ships annually, which were confined to the port of Nagasaki. Even here trade was confined to a small island in the harbour, and no stranger was allowed to enter the town.

These restrictions were rigidly enforced until 1854, when the ports of Simoda and Hakodada were thrown open to the United States and Great Britain. Several ports are now open to general trade.

225. Japan consists of an archipelago on the east of Asia. The principal islands are *Yesso*, *Nippon*, *Sikokf*, and *Kinsiu*. The empire also includes the *Loo Choo Isles*, the southern half of *Saghalien*, and the three southern *Kuriles*.

The **surface** is generally hilly and mountainous. Some

of the mountains rise above the snow-line, and volcanoes are numerous. The soil is fertile and carefully cultivated.

226. The **climate** is humid, and varies from warm temperate in the south to cold temperate in the north. Hurricanes and earthquakes are frequent. The islands yield almost every product of the torrid and temperate zones.

The islands are rich in gold, silver, copper, lead, coal, sulphur, and porcelain earth.

The forests contain oak, cedar, fir, chestnut, and camphor trees. Rice, cotton, tea, oranges, lemons, figs, and plums, are cultivated. Silk is an important product.

Oxen and buffaloes are the chief beasts of burden. Dogs and foxes are objects of worship.

227. The **inhabitants** are considered the most civilized of the Mongolian race. The majority are taught to read and write. Buddhism is the prevailing religion. Married women stain their teeth black.

Towns.—228. *Yeddo* (2,500,000), the capital, on Nippon, is one of the largest cities in the world. The houses are low on account of earthquakes. *Miako* (500,000), also on Nippon, is the ecclesiastical capital.

Nagasaki (100,000), *Hakodadi*, and *Matsmai* are important ports.

229. **Agriculture**, mining, and manufacturing, are the principal occupations. The manufactures include cottons, silks, porcelain, and lacquered ware.

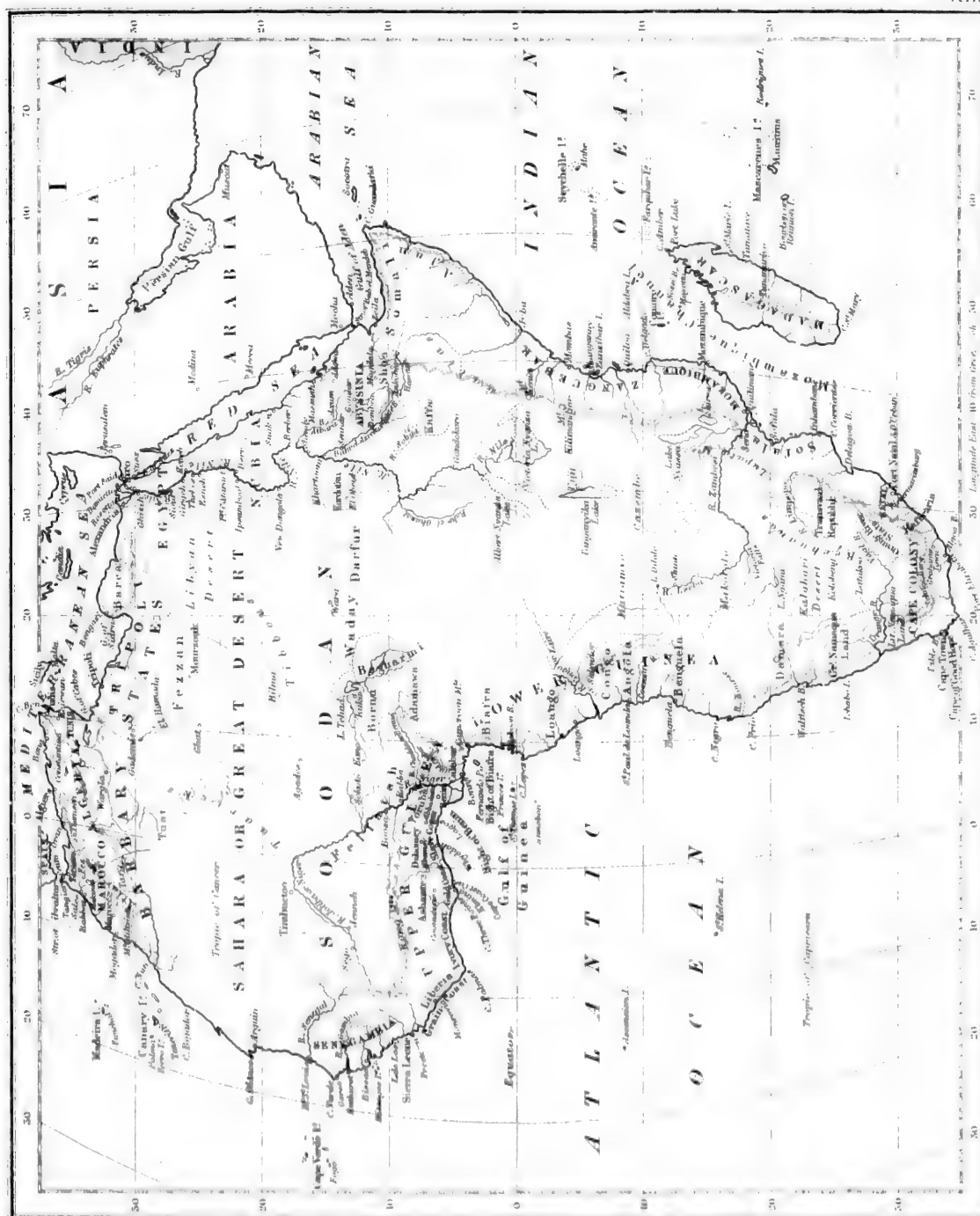
The exports include the mineral and vegetable products. The imports are iron, steel, tin, glass-ware, woollen goods, spices, and sugar.

230. The **government** is despotic, and embraces two departments, the civil and ecclesiastical, each having a distinct officer at its head. The temporal sovereign is called the *Tycoon*; and the spiritual ruler, the *Mikado*. Under these chief rulers is a powerful *oligarchy*, or council of nobles.

EXERCISE.—Find the difference of time between Canton and St. John, New Brunswick.

QUESTIONS.—(1.) What part of Asia is most humid, and why?
(2.) On what causes does the absence of rain on the table-lands of Central Asia depend?

AFRICA



English Miles
Scale of 625 Miles to an Inch
One square inch represents 3525 sq. miles of the Earth at Map 1

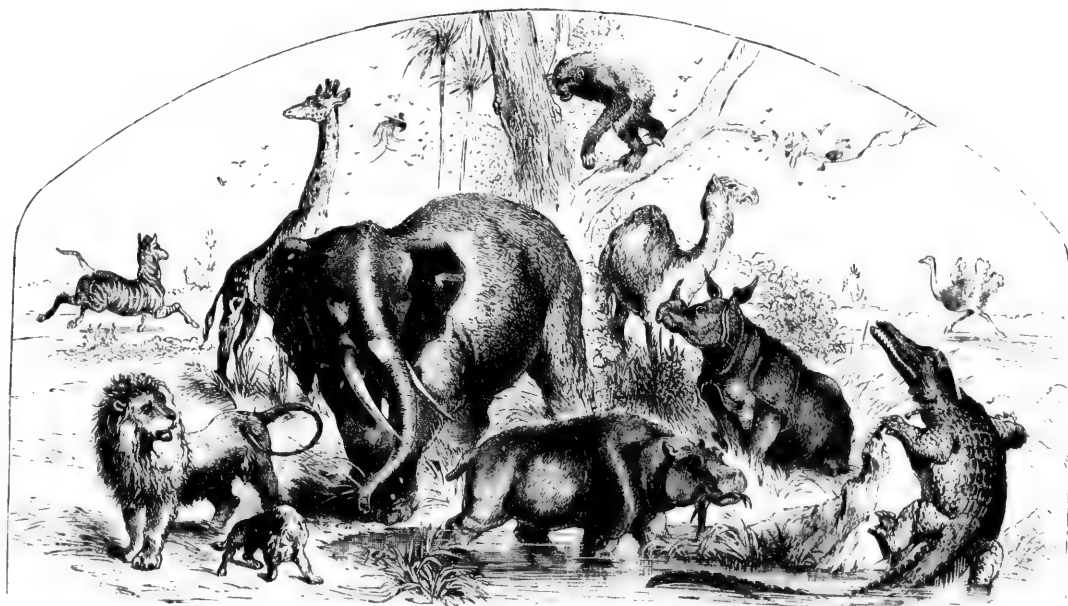


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AFRICA.



ANIMALS OF AFRICA.

I. History.—1. In civilization and power Africa ranks the lowest among the great divisions of the Earth. Egypt and Carthage, on the Mediterranean coast, were leading nations of antiquity; but the greater portion of the continent, isolated from the rest of the world, has never advanced beyond the lowest barbarism.

2. At the commencement of the fifteenth century, the western coast south of Cape Nun was wholly unknown to Europeans. During that century the Portuguese explored the coast, until finally, in 1486, Bartholomew Diaz discovered the Cape of Good Hope. Vasco de Gama, in 1497, sailed around the Cape and opened up a new route to the East Indies.

3. A large part of the interior is still very imperfectly known. During the past hundred years many travellers have exposed themselves to great hardships and dangers in exploring different parts of the country. Some of the chief difficulties encountered in travelling

in the interior are hostility of the natives, insalubrity of the climate, entire want of means of conveyance, and ferocity of the wild beasts. When the traveller has lost his last horse from the fatal effects of the climate, he bestrides an ox and pursues his journey. Often he is deprived of this mode of conveyance by the poisonous sting of an insect, and he is obliged to proceed on foot.

Some of the most noted travellers who have explored different parts of Africa are: Bruce, Park, Denham, Clapperton, Lander, Richardson, Barth, Moffat, Livingstone, Burton, Speke, Grant, and Baker.

II. Position.—4. Africa is a great peninsula, connected with Asia by the Isthmus of Suez, 72 miles in breadth. It has the Mediterranean on the north, the Red Sea and Indian Ocean on the east, and the Atlantic on the west.

Africa lies pretty equally on both sides of the Equator, and is principally in the Torrid Zone.

Lat. $37^{\circ} 20' N.$ — $34^{\circ} 50' S.$; lon. $17^{\circ} 42' W.$ — $51^{\circ} 20' E.$

III. Form.—5. In outline Africa is pear-shaped, with an indentation on the west and a projection on the east. A line drawn east and west between the Bight of Biafra and Cape Guardafui gives a triangle on the south, and an oval on the north.

EXERCISE.—Draw the approximate form of Africa.

IV. Coast.—6. Africa is noted for the regularity of its coast line. In this feature it resembles South America, and contrasts strongly with Europe.

The chief **Coast Waters** are the *Strait of Gibraltar*, the *Gulf of Cabes*, and the *Gulf of Sûdra*, on the north; the *Gulf of Suez*, *Red Sea*, *Strait of Bab-el-mandeb*, *Gulf of Aden*, *Mozambique Channel*, and *Delagoa Bay*, on the east; the *Gulf of Guinea*, *Bight of Biafra*, and the *Bight of Benin*, on the west.

7. The coast line of Africa is estimated at 16,000 miles. The Strait of Gibraltar at the narrowest part is 15 miles in width. Owing to the absence of deeply-penetrating seas, the interior of Africa is nearly excluded from intercourse with the rest of the world.

8. The most important **Capes** are *Ceuta*, *Bon*, *Guardafui*, *Delgado*, *Corrientes*, *Agulhas*, *Good Hope*, *Lopez*, *Palmas*, *Verde*, *Blanco*, and *Nun*.

Ceuta is a high promontory opposite the Rock of Gibraltar in Europe. These promontories were anciently called the *Pillars of Hercules*.

9. The principal **Islands** on the coast of Africa are *Madagascar*, the *Mascarenes*, *Comoro*, *Zanzibar*, *Amirantes*, *Seychelles*, and *Socotra*, on the east; *St. Helena*, *Ascension*, *Annohon*, *St. Thomas*, *Prince's*, *Fernando Po*, *Cape Verde*, *Canaries*, and *Madeiras*, on the west.

10. **Madagascar**, separated from the mainland by Mozambique Channel, 240 miles wide, is one of the largest islands on the globe. It is about 1000 miles in length, and its area equals a square of 470 miles. The coast is low, swampy, and unhealthy. A range of mountains traverses the interior, having an extreme height of 10,000 feet. The products are cotton, sugar-cane, rice, coco-nuts, and various tropical fruits. The inhabitants are computed at 4,000,000, and are generally pagans. *Tananarivo* (40,000), in the interior, is the capital. *Tamatave* is the chief commercial town.

11. The **Mascarenes** include *Bourbon* or *Réunion*, *Mauritius*, and *Rodriguez*.

Bourbon has belonged to France for more than two hundred years. It equals a square of 30 miles. The surface is mountainous, with lofty volcanic peaks. The island is subject to terrific hurricanes. The products are tropical. The population is about 170,000. *St. Denis* is the capital. The small islands *St. Marie*, *Mayotta*, and *Nossi Bé*, near Madagascar, are dependencies.

Mauritius, or *Isle of France*, belongs to Great Britain, having been taken from France in 1810. The area equals a square of 27 miles. The surface is varied with mountains, fertile valleys, and plains. The chief products are sugar, rice, maize, and coffee. Population, 170,000. *Port Louis* is the capital. *Rodriguez*, 300 miles east of Mauritius, is a dependency.

12. The **Comoro** group, with the exception of Mayotta, are under a native government.

Zanzibar, 25 miles from the mainland, belongs to the Sultan of Muscat. *Shangany* is the capital.

The **Amirantes** and **Seychelles** consist of small islands belonging to Great Britain.

Socotra, 120 miles from the mainland, belongs to the Arabian State of Keshin. Area, equal to a square of 32 miles. It yields aloes of the finest quality. Population, 5000.

13. **St. Helena**, about 1200 miles from the west coast, belongs to Great Britain. It is noted as the place of exile of Napoleon I. It is about 10 miles in length, and is principally a rude mass of rock. *Ascension*, about 8 miles in length, also belongs to Great Britain.

St. Thomas and **Prince's** belong to Portugal; **Fernando Po** and **Annohon** to Spain. **Fernando Po** is 45 miles long, and has mountains 10,000 feet in height.

14. The **Cape Verde Islands**, 320 miles from Cape Verde, belong to Portugal. There are ten principal islands, having a united area equal to a square of 40 miles. They are generally mountainous. Fogo, one of the group, has a volcano over 9000 feet high. The products are maize, rice, cotton, and tropical fruits. Population, 86,000.

15. The **Canaries**, formerly called the *Fortunate Isles*, belong to Spain. There are seven principal islands, with a united area equal to a square of 63 miles. They are mountainous and volcanic. *Teneriffe*, the largest of the group, contains an extinct volcano over 15,000 feet high. The chief products are sugar, oil, wine, and the cocaine insect. Population, 250,000. Capital, *Santa Cruz*, on *Teneiffe*.

16. **Madeira**, the principal island of a small group belonging to Portugal, is about 400 miles from Africa. It is about 35 miles long and 12 broad. It is volcanic and elevated. The products are vines, oranges, bananas, coffee, and on the higher slopes the grains and fruits of temperate countries. *Madeira*, from its salubrity, is a favourite resort of invalids. Population, 98,000. Capital, *Funchal*.

EXERCISE.—Trace the coast line of Africa, marking coast waters, capes, and islands.

V. Area.—17. Africa is 640 times larger than Nova Scotia, or equals a square of 3464 miles.

Extreme length from north to south, 5000 miles; breadth, 4800 miles.

EXERCISE ON THE GLOBE.—Find the distance from the north of *Tunis* to *Cape Agulhas*; also, from *Cape Guardafui* to *Cape Verde*.

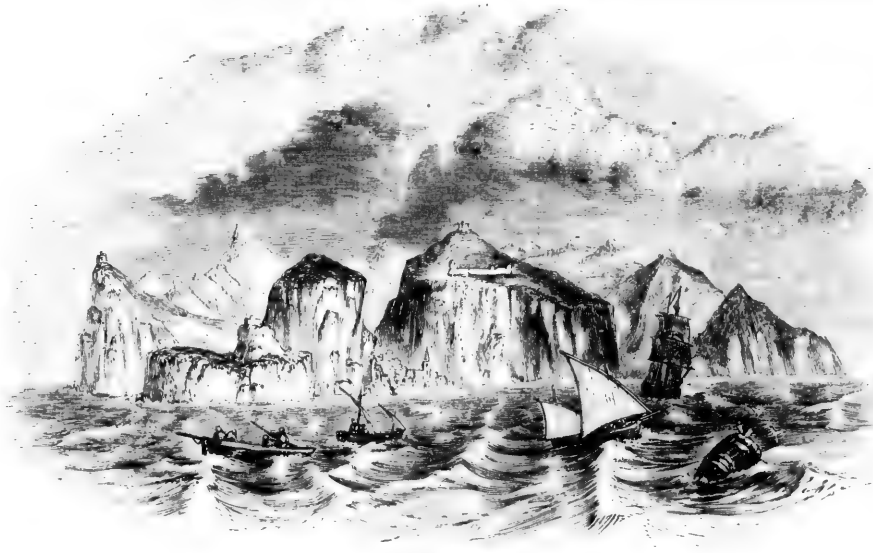
VI. Surface.—18. Nearly the whole continent is tableland, the triangular southern portion being much the more elevated.

The oval northern section has two mountain ranges;—the *Atlas Range*, along the Mediterranean, from the Atlantic to Cape Bon; and the *Kong Mountains*, extending from the Atlantic, westerly, parallel with the Gulf of Guinea. Between these ranges is the *Sahara* or *Great Desert*.

The *Atlas* are much the highest towards the west. *Miltzin*, in Morocco, is over 11,000 feet high. The *Kong Mountains* are from 2000 to 3000 feet in height.

19. In the southern section of the continent broken mountain ranges lie along the margin of the tableland, near the coast. The principal mountains are the *Cameroon*, near the Bight of Biafra; the *Great Sneeun*, in the south; the *Quathlamba*, the *Lupata*, and the *Mountains of Abyssinia*, on the east.

The highest point in Abyssinia is about 16,000 feet above the sea.



ST. HELENA.

Mount Kenia, near the Equator, and *Kilimandjaro*, a few degrees south, are about 20,000 feet in height, and are the highest known points in Africa. In the interior, near the Equator, is a range called the *Mountains of the Moon*. A large part of the central plateau, in the south, is occupied by the *Kalihar Desert*.

EXERCISE.—Trace the mountain ranges on the map of Africa.

VII. Rivers.—20. The rivers of Africa are not numerous or large, compared with the extent of the continent. The most important are the *Nile*, *Zambezi*, *Orange*, *Coanza*, *Congo*, *Niger*, *Gambia*, and *Senegal*.

21. The Nile is the largest river in Africa, and one of the longest and most remarkable rivers in the world. It is supposed to be about 3000 miles in length. Until recently its source was unknown. In 1862, Captain Speke discovered that it flowed from a great lake on the Equator, called the *Victoria Nyanza*. Subsequently, Baker traced its course westerly from this lake to another called the *Albert Nyanza*. The stream flowing from the *Albert Nyanza* is called the *White Nile*. In the first half of its course it receives several tributaries, principally from the mountains on the east. The most important are the *Sobat*, *Blue Nile*, and *Atbara*. Throughout the lower half of its course it has no tributaries. It forms several cataracts before reaching Egypt, and it enters the sea by several mouths, forming a large delta. For three months in summer the Nile overflows its banks in Egypt, covering all the lowlands with water. This is occasioned by the heavy rains in the mountains of Abyssinia.

22. The Niger, 2000 miles long, is the second river of Africa. It is navigable far into the interior, but flows through a very unhealthy country.

The *Zambezi*, 1400 miles long, is a large river. Its chief tributary is the *Kakema*. A little below the junction are the *Victoria Falls*, the greatest cataract in Africa.

VIII. Lakes.—23. There are several large lakes in Africa,

but most of them are imperfectly known. The most important are *Victoria Nyanza* and *Albert Nyanza*, sources of the Nile; *Tchad*, *Tanganyika*, *Nyassi*, *Shirwa*, *Ngami*, and *Dembea*.

24. The *Victoria Nyanza* is about 250 miles long. The *Albert Nyanza* is supposed to be of even greater length. *Tanganyika*, discovered by Burton in 1858, is over 300 miles long. *Tchad*, in Central Africa, is about 150 miles in length. It receives large streams, but has no outlet. *Nyassi* is about the size of *Tanganyika*. *Dembea*, in the basin of the *Blue Nile* in Abyssinia, is on an elevation of 6000 feet. It is about 60 miles in length.

EXERCISE.—Lay down the rivers and lakes on the map of Africa.

IX. Soil.—25. The soil of Africa, except in the arid deserts, is generally very productive.

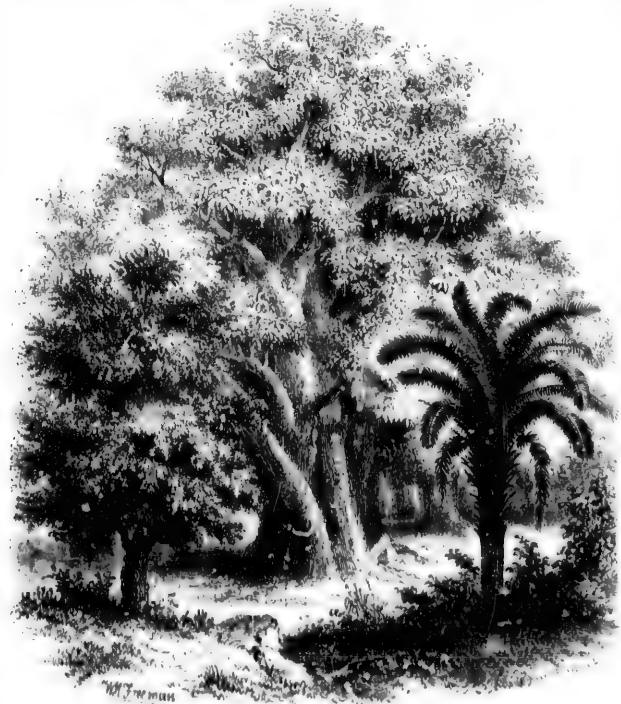
X. Climate.—26. On account of its burning heat, Africa has been called "the land of the mid-day." The northern and southern extremities have a warm temperate climate; but the greater portion of the continent, lying between the tropics, is very hot. Throughout the greater part of Africa there are but two seasons in the year—the rainy and the dry. A vast tract of country between the parallels of 15° and 30° north, stretching from the Atlantic to the Red Sea, is nearly or quite destitute of rain.

27. A combination of causes renders Africa the hottest portion of the Earth. Among the causes may be mentioned its tropical situation, scarcity of rain and vegetation in many parts, and the regularity of the coast line. The greatest mean annual temperature known is said to be 113° in the Sahara. A dry, scorching wind, called the *harmattan*, blows from the desert.

Many parts of Africa, particularly the tropical coasts south of the Sahara, are very insalubrious. (See *Physical Geography*, 102.)

XI. Minerals.—28. The mineral wealth of Africa is very imperfectly developed. Gold is found in Abyssinia, Mozambique, Soodan, Senegambia, and Guinea; silver, copper, and lead, occur in the Atlas Mountains. Salt is very scarce in some portions.

XII. Plants.—29. The products in the warm temperate regions of the north and south are similar to those of Southern Europe. The palm, in one or other of its species, is said to flourish throughout the whole continent except the extreme south. The larger part of the country has a tropical vegetation, including the cocoa-nut, butter-tree, cassia, gum acacia, rosewood, and mahogany. The baobab



BAOBAB-TREE.

is the most remarkable tree of the tropical regions. It does not grow tall, but the trunk is of immense size—sometimes over thirty feet in diameter.

30. Coffee grows wild in Abyssinia. The plateaus of Southern Africa, in the wet season, are covered with beautiful flowers, such as geraniums, heaths, and lilies, cultivated with us as house plants.

Frequently along the margins of the lakes and rivers are extensive marshes, covered with thickets of cane and rushes, amid which lurk innumerable wild beasts. Owing to the dryness of the climate, the vegetation of Africa is generally less rank and varied than that of South America.

XIII. Animals.—31. Africa is noted for the number, variety, and size of its wild animals. Some of the most important are the elephant, rhinoceros, hippopotamus, lion, hyena, leopard, panther, buffalo, giraffe or camelopard, zebra, antelope, chimpanzee, gorilla, and crocodile.

32. There are three varieties of lions in Africa. The giraffe is the tallest of quadrupeds. The ostrich is the most remarkable bird of Africa. It is very tall, strong, and fleet, and is much hunted for its feathers. Vultures, eagles, parrots, and Guinea-fowl are numerous. Among the insects may be mentioned locusts, termites or white ants, and the tsetse fly, the bite of which is fatal to the ox and most other domestic animals.

XIV. Inhabitants.—33. The population of Africa is variously estimated from 60,000,000 to 100,000,000. The principal races are *Whites*, *Negroes*, *Kaffres*, and *Hottentots*.

34. Those of the White race form the chief population in the north, including the Arabs in the valley of the Nile and along the coast of the Mediterranean; and the Berbers in the Atlas Mountains and the oases of the desert.

The Negroes occupy the whole of the interior south of the Sahara. The Kaffres, a well-formed, intelligent race, occupy a large part of the south-east coast. Their wealth consists chiefly in cattle. The Hottentots, a deformed and ugly race found on the west side of Southern Africa, are among the lowest of the human family.

Mohammedanism is the principal religion in the north. The inhabitants of the centre and south are pagans, and exceedingly superstitious.

XV. Divisions.—35. There are no powerful native States in Africa. Egypt is the most important. Various European Powers own territories along different portions of the coast. The interior is divided into a large number of petty States.

36. It will be convenient to arrange the countries under the following heads:—

The *Barbary States*, the *Region of the Nile*, the *Sahara*, *Western Africa*, *Central Africa*, *Eastern Africa*, and *Southern Africa*.

XVI. Towns.—37. Africa contains but few important cities. *Cairo* or *El Kahirah* (250,000), the capital of Egypt, is the largest city. The towns in

the interior are often built of mud, and are surrounded by mud walls.

XVII. Industries.—38. Agriculture and grazing are the most important pursuits.

The want of energy on the part of the inhabitants, and the absence of easy communication with other parts of the world, greatly obstruct the prosperity of African countries. Trade with the interior is conducted by caravans, in which goods are transported on the backs of camels. Ivory, ostrich feathers, and gums, are important exports. The slave trade, though much less extensive than formerly, is still carried on along the east and west coasts.

XVIII. Government.—39. The native governments are despotic. The petty rulers of the interior often make war on each other for the purpose of obtaining captives to sell as slaves.

BARBARY STATES.

40. The Barbary States derive their general name from the Latin *barbarus*,* a term applied by the Romans to foreigners. They are situated between the Atlantic and Mediterranean on the north, and the Sahara on the south.

This portion of Africa was the seat of noted Phœnician colonies; it formed part of the Roman Empire, and was subjugated by Mohammedan Arabs about the middle of the seventh century. In later times the coasts were noted for pirates.

41. The Atlas Mountains traverse Barbary from east to west. The southern slopes are very hot; north of the mountains the climate is temperate, except towards the east, where the low range affords little protection from the burning winds of the desert.

42. The most important products north of the Atlas Mountains are grain and olives. Dates are the chief product on the south of the mountains. An extensive region here is called *Beled-el-Jerid* or *Land of Dates*.

The Barbary States were accounted the granary of ancient Rome. Cotton is cultivated to some extent. Sheep and goats are extensively reared in the mountain districts. The chief manufactures are morocco leather, olive oil, indigo, and salt; which, with ostrich feathers, wool, gums, dates, and grain, are the principal exports. Trade is carried on with Central Africa across the desert by caravans.

Barbary comprises four States, *Morocco*, *Algeria*, *Tunis*, and *Tripoli*.

MAROCOCO.

43. This country was anciently called Mauritania. It is the most westerly of the Barbary States, and is fourteen and a half times larger than Nova Scotia, or equals a square of 520 miles. Much of the surface is mountainous.

The river valleys are very fertile. The streams on the south of the Atlas Mountains are lost in the sands of the desert.

44. Agriculture is in a very rude state. A kind of grain called millet is much used as food.

Lions were once more numerous in Morocco than at present. Pompey is said to have obtained over three hundred from this country to fight in the Circus at Rome.

45. The population is variously estimated from 3,000,000 to 8,000,000. The Arabs, who are in this country called

Moors, are the ruling race, and occupy the coast. The Moors were formerly noted pirates.

The Berbers inhabit the mountains. Jews are numerous, and are chiefly engaged in trade. They are subjected to much persecution from the Mohammedans.

Towns.—46. *Morocco* (80,000), the capital, is on a fertile plain 130 miles from the Atlantic. It is a walled city. *Fez* (80,000) is surrounded by orchards and orange groves. It was once a magnificent city, containing seven hundred mosques, and is still accounted a holy city by Mohammedans. Other important towns are *Mekines* (70,000); *Mogador*, the chief port; *Rabat*; *Tangier*; and *Salé*, once a stronghold of Moorish pirates. *Tetuan* and *Ceuta* belong to Spain.

47. The government is despotic and tyrannical. The Emperor, who has unlimited power both in civil and religious matters, claims to be descended from Mohammed, and is styled by his subjects, "Lord of the true believers."

ALGERIA.

48. This State, corresponding nearly with ancient Numidia, derives its present name from its chief town. It is now a French province.

For several centuries the pirates of Algeria were the scourge of commerce. Sweden, Denmark, Portugal, and other European powers, paid them black-mail to secure their trading vessels from plunder. Christian captives were held as slaves. The French, provoked by repeated attacks on their commerce, together with an insult to the consul, bombarded Algiers in 1827, and by a long cruel war finally subjugated the whole country.

49. Algeria is on the north-east of Morocco. The area is eight and a half times greater than Nova Scotia, or equals a square of 400 miles.

Between the Atlas Mountains and the Mediterranean is a narrow fertile district called the *Tell*, which yields large quantities of grain.

Increased attention is given to the cultivation of cotton.

50. The French Government has recently greatly improved the arid region adjoining the desert, by boring Artesian wells. The natives were filled with the greatest joy on beholding the pure water gush up amid the burning sands.

51. The population is estimated at 3,000,000. About 200,000 are French colonists.

Towns.—52. *Algiers* (53,000), on the Mediterranean, is the capital and most important town. It is built on an island connected with the mainland by a mole. Invalids from Northern Europe resort to Algiers in the winter season. Louis XIV. of France, to punish the inhabitants for their piracies, bombarded Algiers three times. During the first bombardment the Dey, in retaliation, caused the French consul to be blown from the mouth of a mortar. Lord Exmouth besieged the town in 1816, and compelled the Dey to liberate the Christian slaves. The other towns are *Constantine*, *Bona*, and *Oran*.

* Some derive Barbary from Berber.

TUNIS.

53. Tunis corresponds generally with ancient Carthage. It is nominally subject to Turkey, but the Bey or Viceroy is practically independent.

54. This State is bounded on the north and east by the Mediterranean. It is about four times larger than Nova Scotia, and has a population of about 600,000.

Towns.—55. *Tunis* (180,000), the capital, is next to Alexandria, the most commercial city in Africa. It is situated on the margin of a small lake, communicating with the Mediterranean by a narrow channel. One-sixth of the inhabitants are Jews. Tunis has extensive manufactures of leather, cottons, linens, woollens, earthenware, olive oil, and essences. Ten miles north of the city is the site of ancient Carthage.

Kairuan (50,000), in the interior, contains the finest and most revered mosque in Africa.

TRIPOLI.

56. Tripoli derives its name from the Greek *tripolis*, "three towns," the whole country in ancient times being subject to three flourishing cities. It now forms a pachalic of the Turkish Empire.

Barca is a dependency on the east. Its ancient name was Pentapolis.

57. The area is about twelve times greater than Nova Scotia. Lying beyond the Atlas range, this country is exposed to burning winds and drifting sands from the desert. The fertile coast region is quite narrow.

The population is estimated at 1,000,000.

Towns.—58. *Tripoli* (10,000), the capital, has an important caravan trade with Central Africa, exchanging manufactures for ivory and gold dust.

59. *Fezzan*, on the south of Tripoli, is a tributary State. It consists of low broken mountains and sandy plains. The date-palm is the most important product.

Mourzouk, the capital, is the last station on the caravan route before entering the desert.

THE REGION OF THE NILE.

60. This section of Africa comprises *Egypt*, *Nubia*, and *Abyssinia*.

There are also several small States along the upper course of the White Nile.

Egypt and Nubia are in the rainless region of Africa. They owe their existence, as habitable countries, to the Nile, which annually inundates the lowlands, and from which the crops are watered by irrigation. During our summer it rains almost constantly in Abyssinia; the remainder of the year is rainless.

EGYPT.

61. Egypt, long subject to Turkey, is now an independent kingdom.

Egypt was the seat of one of the most renowned and powerful nations of antiquity. The advancement of its early inhabitants in art and civilization is demonstrated by the remains of its magnificent pyramids, temples, sepulchres, statues, and obelisks.

Egypt was conquered by the Turks in the beginning of the sixteenth century. In 1830 it became a hereditary vicerealty of the Ottoman Empire. The Pacha has recently declared himself independent.

62. Egypt is situated in the north-east of Africa. Its breadth on the Mediterranean is about 150 miles, and its length on the Red Sea 500 miles. The entire area equals a square of 400 miles, but the habitable country, being confined to the valley of the Nile and its Delta, is about two-thirds the size of Nova Scotia.

63. The average breadth of the valley of the Nile is about eight miles. The river has an average width of half a mile. Ninety miles from its mouth it divides into the Damietta and Rosetta branches, which enclose a triangular country called the Delta. Rocky hills separate the valley from the Red Sea and the Sahara. (*See Africa*, 21.)

64. The Nile overflows its banks in August, and subsides into its regular channel in October, leaving a deposit of mud which fertilizes the soil. The country is intersected by numerous canals from which water is obtained for irrigation.

The farming season is during our winter. Cotton, flax, indigo, sugar-cane, tobacco, grapes, wheat, rice, and millet are cultivated.

65. The population is estimated at 5,000,000. It consists of Copts, Turks, Arabs, and Jews.

Mohammedanism is the prevailing religion. The Copts have a corrupt form of Christianity.

Towns.—66. *Cairo* (250,000), the capital, is three miles east of the Nile, and five miles above the head of the Delta. Three miles above Cairo, on the west of the Nile, is *Ghizeh*, where the celebrated pyramids commence. The largest pyramid covers an area of 14 acres, and is 481 feet high. In front of one of the pyramids is the sphinx, a huge figure, half human and half animal, cut out of solid rock. The circumference of the head is 100 feet. Near Cairo is the site of ancient *Heliodia*, or *On*. Mounds of earth mark the position of its walls. The space within is occupied by acacia and date trees, among which stands an obelisk 60 feet high.

67. In Upper Egypt are *Sicut*, *Girgeh*, *Keneh*, and *Esneh*. Here also are the ruins of ancient *Thebes*, with its huge columns, sphinxes, and obelisks; while the hills in the rear are excavated into vast sepulchres.

68. *Alexandria* (80,000) is the principal port of Egypt, and has long held an important position in the overland route to India. Near the city are an obelisk called Cleopatra's Needle, and Pompey's Pillar, a column of marble 90 feet high. A few miles east of Alexandria is the Bay of Aboukir, where Nelson defeated the French in 1801.

Rosetta and *Damietta* are ports on the Mediterranean. *Suez* is a small but important town at the head of the Gulf of Suez.

69. **Agriculture** is the most important pursuit. The chief manufactures are pottery, fire-arms, and carpets. The foreign commerce is rapidly increasing, and the country is advancing in prosperity.

A railroad extends from Alexandria to Cairo, 130 miles; and from Cairo to Suez, 90 miles. A canal across the Isthmus from the Mediterranean to the Gulf of Suez, constructed by French engineers, is now open to commerce.

70. The **government** is an absolute monarchy.

NUBIA.

71. Nubia has been subject to Egypt since 1821. The southern part of the country is supposed to have been included in ancient Ethiopia.

It is bounded, north by Egypt; east by the Red Sea; south by Abyssinia; and west by the Sahara. The area equals a square of 600 miles.

72. In Middle and Lower Nubia, the valley of the Nile is rendered very narrow by the close approach of rocky hills on each side. In the south the country, watered by the Blue Nile and the Athara, is more varied and fertile.

Water is taken from the Nile for irrigation by machinery worked by oxen. A modern traveller says: "As all the grease in the country is required for the unturband heads of the Nubians, the water-wheels are heard creaking night and day."

73. The products are similar to those of Egypt. The wild animals include the elephant, hippopotamus, rhinoceros, giraffe, hyena, and baboon.

The **population** is about 1,000,000.

Towns.—74. *Khartum* (30,000), at the confluence of the Blue and White Nile, is the largest town and the capital. Considerable trade between Egypt and Central Africa passes through Khartum. The other towns are *New Dongola*, *Berber*, *Shendy*, *Sennaar*, and *Snakin*.

Nubia has many remarkable antiquities. At *Ipaambul* are temples cut out of the solid rock, at the entrance to which are colossal figures over 60 feet high.

75. The **government** of Nubia is in the hands of Egyptian officials, who have absolute power, and repress all honest industry and enterprise by unjust taxes and extortions.

"The heaviest and most unjust tax is that upon the 'sageer,' or water-wheel, by which the farmer irrigates his otherwise barren soil." (*Baker*.)

76. *Kordofan*, on the south-west of Nubia, is also a dependency of Egypt. Population, 400,000. Chief town, *El Obeid* (20,000).

ABYSSINIA.

77. Abyssinia, or Habesh, includes part of ancient Ethiopia. It was once the seat of an empire considerably advanced in civilization. It now consists of several petty States.

Christianity was introduced about the middle of the fourth century. In modern times, through the influence of Portuguese missionaries, the royal family became Roman Catholics. This excited violent opposition among the people, and in 1632 the missionaries were expelled or put to death.

78. Abyssinia lies along the Red Sea south-east of Nubia, and has an area equal to a square of 490 miles. The surface is generally elevated, consisting of table-lands and mountains, diversified by deep river valleys. The coast is low, hot, and unhealthy.

Amba Hai, one of the highest mountain peaks, has an elevation of 15,000 feet.

The chief rivers are the *Bahr el-Azrek* or *Blue Nile*, the *Tacaze* or *Athara*, and the *Hawash*. *Lake Demba* is in the basin of the Blue Nile.

79. The **climate** and vegetation vary according to the elevation. The low grounds contain forests of acacias, which yield valuable gums. Cotton, sugar-cane, and coffee are indigenous. Wheat, maize, rice, teff, and millet are cultivated.

80. The **population** is about 4,500,000. There are many Arabians, Jews, and Negro slaves. A very corrupt form of Christianity prevails.

81. The most important States in Abyssinia are *Amhara*, *Tigré*, and *Shoa*. *Shoa* was lately ruled by King Theodore, who, by imprisoning British subjects, provoked a war with Great Britain, which cost him his life.

The towns are small. *Gondar* is the capital of Amhara; *Adowa*, of Tigré; and *Ankobar*, of Shoa. *Axum*, in Tigré, was the ancient capital of Abyssinia. It is noted for its huge obelisks, and for the *Axum Chronicle*, an ancient historic record. *Massuah*, the principal sea-port, belongs to Egypt.

Ankobar 10,000, elevated over 8000 feet, has a delightful climate.

THE SAHARA.

82. The Sahara, or Great Desert, is situated between the parallels of 15° and 35° north latitude, extending from the Atlantic Ocean to the Valley of the Nile. It covers an area equal to five-sixths of British America.

83. The Sahara is mostly table-land, from 1000 to 4000 feet in height. The surface consists of rock or hard gravel, varied in some parts with loose white sand which the winds move about in vast overwhelming clouds. Owing to the prevalence of easterly winds, the sand increases in depth towards the Atlantic. Along the north are numerous salt lakes, which receive the streams from the Atlas Mountains.

84. Rain falls on the desert only at intervals of many years, and throughout a large portion of it vegetable and animal life is unknown. Fertile spots, called *oases*, watered by springs, occasionally relieve the desolation of this wide waste. The oases are covered with grass and groves of date-palm, and often sustain a large population.

85. Traffic is carried on over the desert by caravans, consisting of a



CARAVAN

large company of men and camels. The oases afford resting-places. Travellers sometimes arrive at an oasis only to find its springs dried up. Weary, thirsty, and discouraged, they are unable to proceed, and their bleached bones amid the burning sand tell of their sad fate to those who come after them. They also suffer greatly from exposure to hot winds and moving sands.

QUESTION.— On what causes does the intense heat of the Sahara depend?

WESTERN AFRICA.

86. Western Africa, consisting of the coast region from the Senegal to Cape Frio, was explored by the Portuguese towards the close of the fifteenth century.

The **surface** along the coast is low; in the interior are mountain-ranges. The climate is very hot and unhealthy. The soil is very fertile; the vegetation is luxuriant and varied.

The **products** are rice, cotton, ginger, palm-oil, pea-nuts, tropical fruits, and gums. Gold is plentiful in various parts.

87. Western Africa comprises *Senegambia*, *Upper Guinea*, and *Lower Guinea*.

SENEGAMBIA.

88. The name of this country is derived from its two principal rivers—the Senegal and Gambia. It extends from the Sahara to Upper Guinea.

89. The **area** is estimated to be equal to a square of 500 miles.

The **inhabitants** belong to the Negro race, and include three tribes—*Foulahs*, *Yolofs*, and *Mandingoes*. Their number is variously estimated from 5,000,000 to 10,000,000.

90. The greater part of Senegambia consists of small States ruled by native chiefs. The British, French, and Portuguese have settlements on the coast and along the rivers.

91. The British own various stations on the Gambia. *Bathurst*, on an island at the mouth of the Gambia, is the chief town.

Sierra Leone, in the south-west, was purchased by Great Britain in 1787 as a home for liberated slaves. The area equals a square of 18 miles. Population, 60,000. *Freetown* (18,000) is the capital.

92. The French have possessions on the Senegal. They also own the islands of *Guinee* and *St. Louis*. On the latter island is *St. Louis* (12,000), the chief town.

Bissao (8000), on an island of the same name, is the principal Portuguese town.

UPPER GUINEA.

93. Upper Guinea is situated along the north of the Gulf of Guinea, between the coast and the Kong Mountains. The area equals a square of 600 miles. The Niger is the principal river.

The coast is divided into four sections—the Grain Coast, Ivory Coast, Gold Coast, and Slave Coast.

The **inhabitants**, estimated at 5,000,000, are Negroes, and generally pagans. Polygamy and slavery are common.

94. The **Republic of Liberia** is a settlement founded in 1822, by benevolent persons in the United States of America, as a home for libe-

rated slaves. It is rather larger than Nova Scotia, and has a population of 200,000. *Monrovia* is the capital.

The British own several stations, of which *Cape Coast Castle* (10,000) is the most important.

Elmina is a fortified Dutch town.

95. *Ashantee* and *Dahomey* are Negro kingdoms. *Dahomey* is noted for the barbarism of its inhabitants. The king has many wives, and many of his soldiers are women. Human sacrifice is practised, and war is often made on tribes of the interior to obtain captives to sell as slaves. *Whydah*, the chief port, is closely watched by British cruisers, to prevent the slave trade. *Coomassie* (20,000) is the capital of *Ashantee*; *Abomey* (30,000), of *Dahomey*.

96. *Yoruba*, *Benin*, and *Calabar*, are on the east of *Dahomey*. *Abokutah* (60,000) is a large walled town in *Yoruba*. It is a new town, founded by the inhabitants of several places which were destroyed by slave hunters.

LOWER GUINEA.

97. Lower Guinea extends along the coast from the Bight of Biafra to Cape Frio. The area equals a square of 500 miles.

The *Cameroon Mountains* run parallel with the coast. The principal rivers are the *Zaire* or *Congo*, and the *Coanza*.

98. A large part of the country is nominally subject to Portugal.

The principal divisions are *Biafra*, *Loango*, *Congo*, *Angola*, and *Benguela*.

St. Paul de Loanda, on the coast of *Angola*, has a good harbour, and is the residence of the Portuguese governor. The other towns are *Loango* and *San Salvador*.

99. The Portuguese formerly carried a great many slaves from Guinea to Brazil; but through the vigilance of British cruisers the slave trade has been nearly destroyed.

CENTRAL AFRICA.

100. Central Africa is of somewhat indefinite limits, but it may be considered as embracing all the interior south of the Sahara. The whole region, and especially the southern portion, is very imperfectly known. It is a very hot, fertile region, occupied by barbarous Negro tribes, who often wage fierce wars against each other to obtain captives and cattle.

The northern portion is called *Soodan* or *Nigritia*—that is, *Land of the Blacks*.

SOODAN.

101. Soodan lies immediately south of the Sahara, between Senegambia and the Nile region. It is generally table-land of moderate elevation. The chief pursuits are agriculture, and the rearing of cattle and goats. Grain, cotton, and indigo are cultivated. The trade is carried on by caravans. The towns are often built of mud, and are surrounded by extensive walls.

The inhabitants are principally Negroes, but there are also many Arabs, Berbers, and mixed races, of which the Fulahs are the most important.

102. Soodan consists of many petty States. The more important are the *Fulah* or *Felatah* States, in the west: *Bornou*, south-west of Lake Tchad; *Adamawa*, south of Bornou; *Begharmi*, south-east of Lake Tchad; and *Wadai* and *Darfur*, on the east.

Towns.—103. *Sokoto* (20,000) is the capital of the Fulahs. *Timbuctoo* is a mud-built town on the border of the desert, the centre of the caravan trade with Barbary. *Kuka* is the capital of Bornou.

EASTERN AFRICA.

104. This section of Africa consists of the coast region from the Strait of Bab-el-mandeb to Delagoa Bay. The maritime portion is low, hot, and unhealthy; inland is the more elevated and rugged margin of the interior table-land.

Gold dust, copper, coal, and amber are obtained. The region is fruitful in tropical products, including the finest coffee, myrrh, and aromatics.

105. The principal divisions of Eastern Africa are the territories of the *Somali* and *Gallas*, *Ajan*, *Zanguebar*, *Mozambique*, and *Sofala*.

The *Somali* country, or *Adel*, is low and marshy, exporting wax, myrrh, ivory, and gold. Further west are the *Gallas*, a barbarous and powerful race.

Zanguebar is subject to the Imam of Muscat, a State in the south-east of Arabia. *Shanganyu*, on the island of Zanzibar, is the capital.

Mozambique and *Sofala* are claimed by the Portuguese, who have long jealously excluded all intercourse on the part of others, that they might hold an undisturbed monopoly of the slave trade. *Mozambique* is the capital.

SOUTHERN AFRICA.

106. Southern Africa consists of that portion of the continent south of the tropic of Capricorn. The interior is elevated and dry; the coast is well watered, mild, and healthful. On the north is the great Kalihari Desert.

The *Orange* or *Garij* and its tributary the *Vaal* are the principal rivers.

107. The chief divisions of Southern Africa are *Cape Colony* and *Natal*, belonging to Great Britain; *Kaffraria*, the *Republics of Orange River* and *Transvaal*; the countries of the *Hottentots*, *Bechuanas*, and *Namaquas*.

CAPE COLONY.

108. The name of this colony is derived from a bold head-land on the south-west, called the Cape of Good Hope.

The Dutch in 1650 began a settlement at Cape Town. The British took this place in 1806, and have held the country ever since.

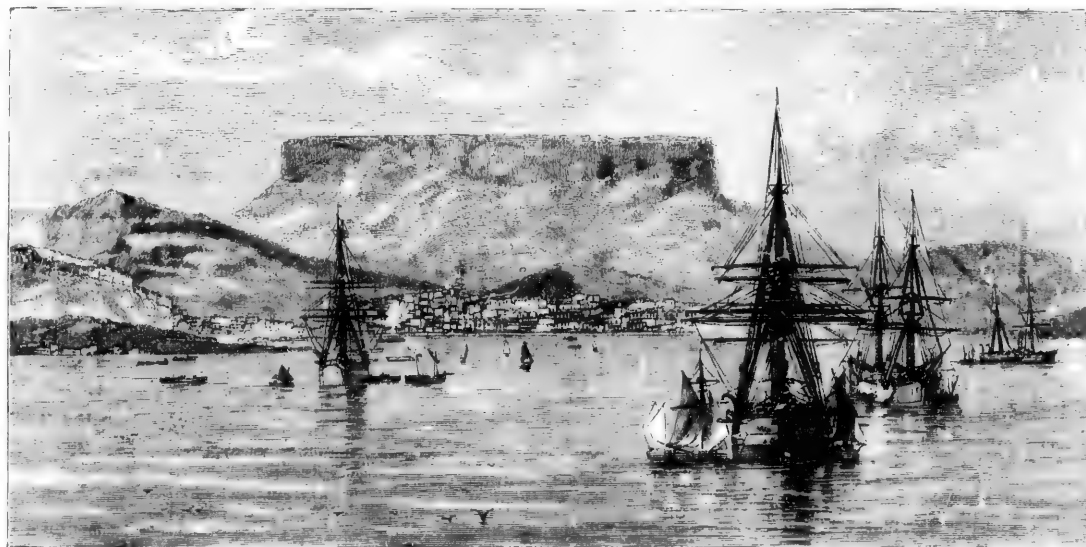


TABLE BAY AND MOUNTAIN.

109. The colony occupies the extreme south of the continent. *Cape Agulhas* is the most southerly point. The Cape of Good Hope, 1000 feet high, is the extremity of a peninsula.

The **area** equals a square of 355 miles.

110. On the south three parallel mountain ranges rise successively one above another, with intervening terraces. The lowest range is about 20 miles from the coast. *Table Mountain* is at its western extremity.

Deep gorges called *kl-oofs* lead from one terrace to another. The high plains are called *karryoos*. In the dry season they are parched deserts, but when the rains begin they are soon clothed with rank grass, mingled with gorgeous and sweet-scented flowers. Geraniums and heaths grow with the luxuriance of common weeds. Troops of buffaloes, antelopes, and ostriches share the bounty of the season with the flocks and herds of the colonies.

111. Rich copper ore is found near the mouth of the Orange River. The grains, fruits, and vegetables of warm temperate countries are successfully cultivated. Large flocks of sheep are the main dependence of many of the inhabitants.

112. The **population** is 285,000. About half the inhabitants are English, Dutch, and French; Hottentots, Kaffres, and mixed races make up the remainder.

The largest religious bodies are Episcopalians, Dutch Reformed, and Wesleyans.

Towns.—113. *Cape Town* (25,000), the capital, is situated on Table Bay. Canals bordered with trees run through the main streets.

Immediately behind the town is Table Mountain. *Graham's Town*, 25 miles from the sea; and *Port Elizabeth*, on Algoa Bay, are the only other important towns.

The most important **exports** are wool, wine, aloes, hides, and copper.

114. The **government** is vested in a governor, council, and representative assembly.

NATAL.

115. This country was discovered by the Portuguese on Christmas-day 1497. It was formed into a British colony in 1843.

Natal is about 200 miles east of Cape Colony, from which it is separated by Kaffraria. The *Drakensberg* or *Dragon Mountains* form the western boundary. The colony is about the size of Nova Scotia.

116. The **surface**, as in Cape Colony, rises in terraces towards the interior. The climate is hotter and more humid than in Cape Colony.

The **products** are cotton, sugar-cane, arrow-root, indigo, and coffee, along the coast; wheat and other grains in the interior. Cattle and sheep are numerous.

117. The **population** is about 130,000. A large majority belong to a native race called *Zulus*.

Towns.—*Pietermaritzburg*, on a small river about 50 miles inland, is the capital. *Port Natal* or *D'Urban* is the chief port. Ivory, sugar, cotton, coffee, and wool, are the principal exports.

KAFFRARIA, ORANGE RIVER REPUBLIC, &c.

The wealth of the Kaffres consists in cattle, and their chief food is millet and curdled milk. The Kaffres are very fond of their cattle, and they ride upon their backs as we ride horses.

119. In consequence of depredations committed by the Kaffres on the settlements of Cape Colony, a large part of their territory on the west has been seized by the British, and formed into a colony called British Kaffraria.

120. The **Orange River Republic**, on the north-east of Cape Colony, and **Transvaal**, lying north of the Vaal River, are two republican States, which originated with Dutch boors or farmers from Cape Colony.

These countries consist chiefly of upland plains, well suited to grazing. The inhabitants are rude and lawless. Their principal wealth is cattle.

121. The **Bechuana**s are represented as a fine race, occupying the interior on the west of the Dutch Republics. They cultivate the soil, and have good houses. *Lattakoo* is their chief town.

122. The **Hottentots** occupy a large country on the west of the Bechuana. They consist of several tribes, some of which are very degraded. They have a very curved spine, yellowish brown complexion, and Negro features. Some of them subsist on the produce of their flocks, others on roots, gums, and insects. Their villages, called *kraals*, are collections of huts made of poles, earth, and skins.

123. The **Namaquas** are situated along the Atlantic coast north of the Orange River. Little Namaqua is on the south side of the river, near its mouth, and is included in Cape Colony.

QUESTION.—What reasons may be given in explanation of the fact that the nations of Africa have less power and influence than those of Europe?

118. Kaffraria is situated on the coast between Cape Colony and Natal. The inhabitants, called Kaffres, are tall and well formed, with but few Negro features.



KAFFRE WARRIORS.

OCEANIA.

1. **Oceania** is the name given to the sixth great division of the world. It comprehends the archipelagoes and islands of the Pacific Ocean. The Bonin Islands on the north, Eastern Island on the east, Auckland on the south, and Sumatra on the west, form the extremes.

The entire area is estimated at rather more than half the size of North America, and the population at 30,000,000.

2. Oceania has been variously divided. It may be conveniently considered under the three divisions—*Malaysia*, *Australasia*, and *Polynesia*.

MALAYSIA.



DATES, PINE-APPLE, AND COCOA-NUT.

I.-IV.—3. Malaysia obtained its name from its inhabitants, the majority of whom belong to the Malay race. It is sometimes called the *East Indian Archipelago*. It is situated on the south-east of Asia, approaching closely to the Malay peninsula, and is wholly in the Torrid Zone.

V.-X.—4. This archipelago includes some of the largest islands on the Earth. The entire area is about one-fourth that of British America.

Most of the islands are mountainous and of volcanic origin. Active volcanoes are very numerous.

The soil is very fertile. The climate is humid, and the temperature is modified by sea breezes.

XI.-XIV.—5. Gold, silver, tin, copper, iron, and coal are among the mineral products.

Dense forests, second in luxuriance only to those of Brazil, clothe the interior. They yield ornamental and dye woods, caoutchouc, gutta percha, resins, and gums.

The cultivated products are rice, maize, millet, coffee, sugar-cane, tobacco, nutmegs, cloves, and every variety of tropical spice and fruit.

Sago, the starchy pith of a kind of palm, is much used as food on some of the islands.

6. The animals are similar to those in the south-east of Asia. Birds of beautiful plumage are numerous, and edible birds' nests are largely exported to China. The ox and buffalo are used for labour.

The shores are covered with shells of beautiful and varied tints. Valuable pearls are obtained on the coasts of the easterly groups.

7. The number of the inhabitants is not accurately known, but is supposed to exceed 25,000,000. The majority are Malays, some of whom are considerably civilized; others are noted pirates. Papuan negroes are numerous: they are much inferior to the Malays. There are also many European colonists, by whom Christianity has been extensively introduced. Mohammedanism is the prevailing religion.

XV., XVI.—8. Malaysia embraces *Sumatra*, *Java*, *Borneo*, *Celebes*, the *Moluccas* or *Spice Islands*, and the *Philippine Isles*, besides some smaller groups.

These islands are for the most part divided amongst the *Dutch*, *Spanish*, and native chiefs or *rajahs*.

9. The following are called the Sunda Isles, *Sumatra*, *Java*, and the smaller islands *Boi*, *Lombok*, *Sumbawa*, *Sandalwood*, *Flores*, and *Timor*.

Timor belongs to Portugal; the others belong to Holland, with the exception of some portions which are subject to native rajahs.

10. **Sumatra** has been more or less under the power of the Dutch since 1649.

It is separated from Malaya by the Strait of Malacca, and is divided into two nearly equal portions by the Equator. The island is about seven times the size of Nova Scotia, and is 1100 miles in length.

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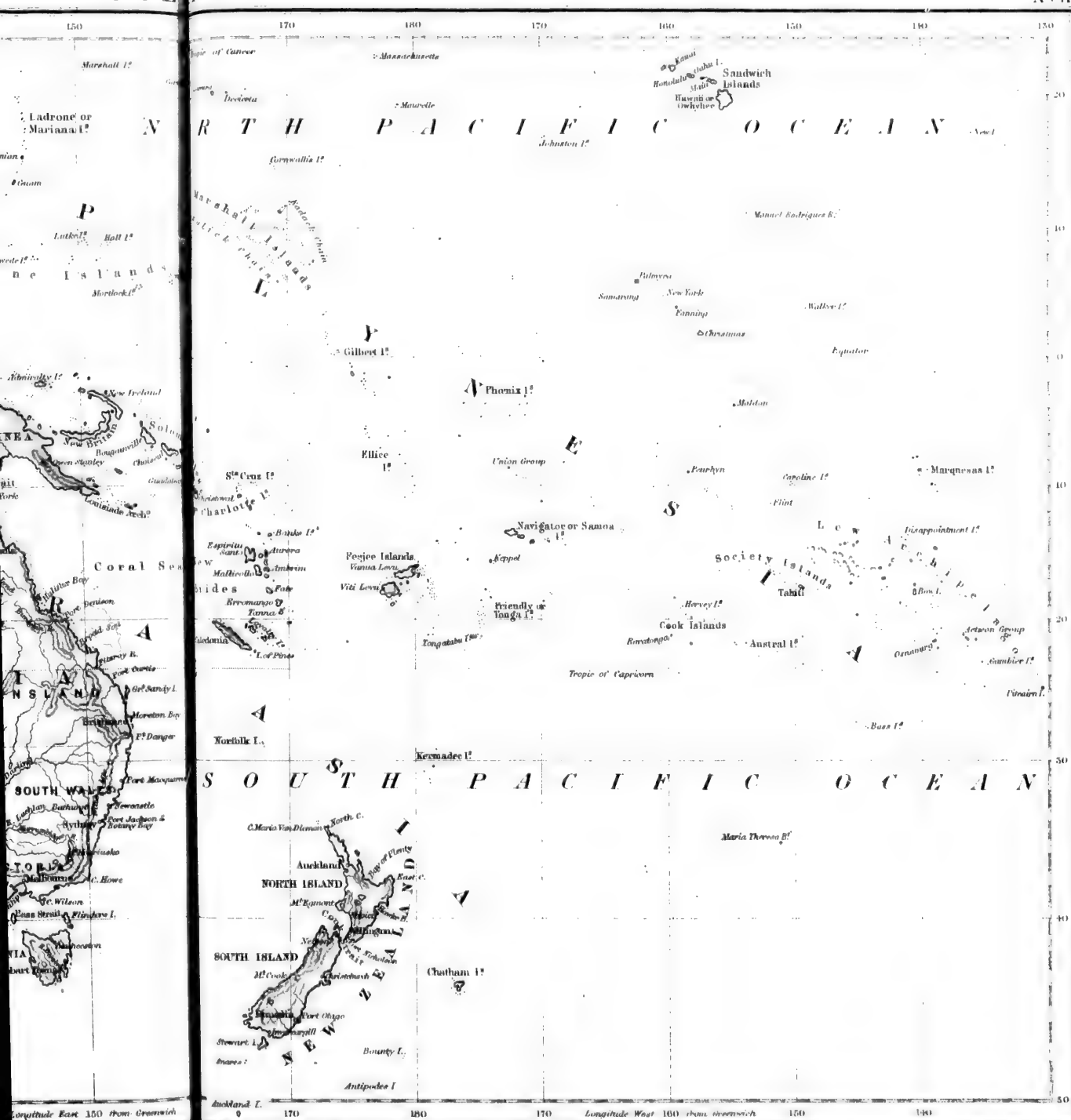
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11. A high mountain chain extends through the whole island. *Kassoumba* (15,000 feet), is the highest peak. Population, 2,600,000. The northern part of the island is ruled by native chiefs. *Padang* and *Bencoolen*, on the west coast, are the most important Dutch towns.

12. **Java** was colonized by the Dutch in 1575. It is separated from Sumatra by Sunda Strait, 25 miles wide. It is nearly three times as large as Nova Scotia.

Volcanoes are more numerous than in any other country of the same size. In the interior is an oval valley, half a mile in circuit, called the *Valley of Death*, in which no animal can live, on account of the poisonous gases which escape from the surface.

13. Java has great variety of temperature and products, according to the elevation. Its forests contain the famous upas tree, whose juices are very poisonous. A mistaken notion formerly prevailed that no animal or plant could live near it.

14. Java is the most fertile and populous island of Malaysia, and has been called the granary of the archipelago. Its population is about 13,000,000, of whom 17,000 are Europeans.

Batavia (118,000), in the north-west, is the capital of the Dutch possessions, and the greatest commercial town in Malaysia. *Samarang* and *Sourabaya* are important towns on the north coast. Large quantities of the finest spices are exported. Manufactured goods of all kinds are imported.

15. **Borneo** was first visited by the Dutch in the year 1598. They have long owned the southern part of the island. A native State called *Sarawak*, in the west of the island, was ruled from 1842 till 1858 by Sir James Brook, a British subject, who suppressed piracy and greatly improved the condition of his subjects.

16. Borneo is separated from Java by the Java Sea, and from Celebes by the Strait of Macassar. The Equator divides it into two nearly equal portions. It is sixteen times larger than Nova Scotia, and, with the exception of Australia, is the largest island in the world.

There are several navigable rivers. The interior is little known. 17. The island is very rich in mineral and vegetable products. The inhabitants number about 5,000,000.

Borneo (22,000) is the capital of a native State on the north-west. *Kuching* (15,000) is the capital of Sarawak.

Labuan, a small island on the north-west, containing valuable coal mines, belongs to Britain.

18. **Celebes** was discovered in 1512 by the Portuguese. It has, for the most part, been subject to Holland since 1660. It is remarkable for its irregular outline. The area is nearly four times greater than Nova Scotia. The surface is hilly; the soil very fertile. Population, 470,000.

Macassar (12,000) is the capital. Macassar oil is the product of a common forest tree. The coasts have valuable pearl fisheries.

19. The **Moluccas** or Spice Islands, north-east of Celebes, are, for the most part, subject to Holland. The principal islands are *Gilolo*, *Ceram*, *Bouro*, *Amboyna*, and the *Banda Isles*. The united area is about twice the size of Nova Scotia. Population, 376,000.

The islands are mountainous and subject to earthquakes. They

yield the finest cloves, nutmegs, and other spices. The clove is the flower bud of a tree. On the coasts are pearl and trepang fisheries.

Amboyna, on the island of the same name, is the capital and an important commercial town.

20. The **Philippine Isles** were discovered by Magellan in 1521. They were named for Philip II. of Spain.

The Philippines include about 1200 islands, of which the principal are *Luzon*, *Mindanao*, *Palawan*, and *Mindoro*. The entire area is about seven times that of Nova Scotia, nearly half of which is comprised in Luzon.

21. The islands are mountainous with numerous volcanoes. Hurricanes and earthquakes are frequent.

The vegetation is very luxuriant. Tobacco of the finest quality, sugar, and rice, are among the products. Population, 6,000,000.

Manilla (140,000), on Luzon, is the capital. It has an extensive trade. Manilla cigars are very celebrated.

Next to Cuba, the Philippines are the most important colony of Spain.

XVII.—22. **Agriculture**, mining, fishing, and commerce are the chief pursuits in Malaysia.

The exports are coffee, pepper, cloves, and various other spices; fruits, gums, tobacco, rice, edible birds' nests, pearls, tortoise shells, gold, tin, and other minerals.

Various manufactured goods are imported.

AUSTRALASIA.

23. Australasia signifies "Southern Asia." Some geographers have given the name *Melanesia*, or "Black Asia," to this part of Oceania, on account of the colour of many of the native inhabitants.

Australasia is supposed to comprise an area equal to the continent of Europe. The population is sparse, being computed at 2,500,000. The aborigines consist of two races, Papuan Negroes and Malays.

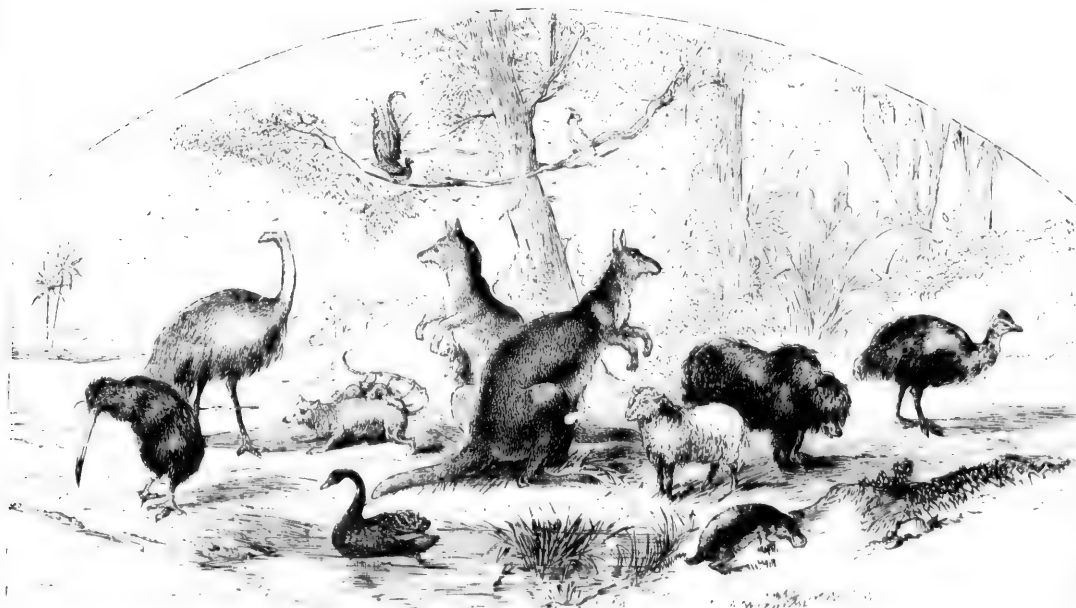
24. The Moluccas and Sunda Isles form the most easterly portion of Malaysia. Australasia comprises the remaining islands situated south of the Equator and west of the 180th meridian. The four principal are the island continent of *Australia*, *Tasmania* or *Van Diemen's Land*, *New Zealand*, and *Papua* or *New Guinea*. The first three belong to Great Britain.

25. Australasia also comprises many archipelagoes and small islands, as,—

Arru, Timor Lant, Frederick Henry, Louisiade Archipelago, Admiralty Islands, New Britain, New Ireland, Solomon Islands, Queen Charlotte Islands, New Hebrides, New Caledonia, Feejee Isles, Norfolk, Auckland, Antipodes, Chatham, and Macquarie.

AUSTRALIA.

I.—26. Australia was discovered by the Spaniards in 1605. The Dutch also discovered the island about the same



ANIMALS OF AUSTRALIA.

time, and afterwards explored various parts of the coast. They gave it the name of *New Holland*.

27. In 1770, Captain Cook visited Australia, and took formal possession of the country in the name of his sovereign, George III. of Great Britain. He called the place where he landed *Botany Bay*, on account of the profusion of flowers in its neighbourhood.

28. From Cook's report, the British Government considered Botany Bay would be a suitable place for a convict settlement. Accordingly in the year 1788, 767 criminals, of whom one-fourth were women, were taken from the jails and transported to Australia. The governor, Captain Philip, his officers and soldiers increased the number of colonists to 1080.

29. This first colony was established 18 miles north of Botany Bay, at Sydney, the present capital of New South Wales. During the succeeding fifty years, 70,000 criminals were transported to this country. The last convict ship arrived in 1839. Many of the criminals, on the expiration of their term, settled in the country and became respectable inhabitants. The first colonists, receiving all their supplies from England, often suffered greatly for want of provisions.

30. Australia now comprises five flourishing British colonies. The most marked event in the recent history of the country was the discovery of gold in 1851, since which the population has rapidly increased.

II.—31. Australia has the Arafura Sea and Torres Strait on the north; the Coral Sea and the Pacific on the east;

Bass Strait and the Pacific on the south; and the Indian Ocean on the west.

The northern portion, including about one-third the area, is in the Torrid Zone; the remainder is in the South Temperate Zone.
S. lat. $10^{\circ} 41'$ — $39^{\circ} 8'$; E. lon. 113° — $153^{\circ} 47'$

III.—32. Australia has the general appearance of an irregular five-sided figure. The southern side is a curved line.

IV.—33. In the regularity of its coast line, Australia resembles the other southern continents, Africa and South America. The most important indentations are the Gulf of Carpentaria on the north, and the Great Australian Bight nearly opposite. The other coast waters are Port Jackson, Port Philip, Spencer Gulf, and Cambridge Gulf.

34. The principal capes are *York*, *Wilson*, *Leeuwin*, and *London-derry*. *York Peninsula* lies to the east of the Gulf of Carpentaria.

The principal coast islands are *Melville*, *Bathurst*, *Great Island*, *Wollsten*, *Great Sandy*, *King's*, and *Kangaroo*.

35. The total length of coast line is estimated at 10,000 miles. The *Great Barrier Reef* extends from Cape York south-easterly for about 1200 miles, with an average distance of 30 miles from the shore. It is a great wall of coral of varying breadth, rising perpendicularly from the depths of the ocean to the surface. Whilst the foaming breakers are dashing against the outside of the reef, within is smooth sea. A few openings occur, which allow ships to pass through.

V.—36. Australia is the largest portion of land to which the term *island* is applied. It is sometimes called a continent. It is about five-sixths the size of Europe, or nearly equal to British North America.

The area equals a square of 1732 miles. Its greatest length is 2500 miles.

VI.—37. A large part of Australia is but imperfectly explored. The surface presents less diversity than the other great divisions. The chief elevations are a low mountain-range near the east side, and a low table-land on the west. The centre is a vast low plain.

38. The principal mountains are the Liverpool, Blue Mountains, and Australian Alps, near the east and south-east coasts. They are generally very rugged. The average height is little over half a mile. There are no volcanoes.

Mount Kosciusko (6500 feet), in the south-east, is the highest peak. It is covered with snow a large part of the year.

VII.—X.—39. Rivers are less numerous than in any other great division. They vary greatly in volume, according to the character of the season. In many, the water is sometimes reduced to a succession of pools in the deeper parts of the channel. In the rainy season they are swollen very rapidly, and some have been known to rise over 50 feet above their ordinary level.

40. The Murray, in the south-east, and its principal tributaries the Darling and Murrumbidgee, are the only large rivers. The mouth of the Murray is very shallow.

Lake Victoria is a large expansion of the Murray, near its mouth. There are several salt lakes and marshes. Lake Torrens, 120 miles long, is the largest.

41. In many parts the soil is very fertile; in others there are extensive deserts.

The northern part of Australia has a hot climate; the south is temperate. It is generally healthy. Irregularity in the supply of rain is the principal defect. Years of drought are followed by overwhelming floods of rain.

42. In the southern part of Australia, many things are just the opposite of what they are with us. The sun is on the north, the cold winds come from the south, and it is midsummer at Christmas.

During the summer an intensely hot wind, accompanied with fine dust, occasionally blows from the interior.

XI.—43. Australia is abundantly supplied with the most important minerals—gold, coal, iron, copper, lead, and zinc.

Since 1851, the colonies of Victoria and New South Wales have been among the most famed gold-producing countries in the world. Previous to this date, farmers had been turning up the gold-bearing quartz with their ploughshares, and building it into their garden-walls, in entire ignorance of its value!

XII.—44. The great majority of native trees and plants

of Australia are peculiar to it and the neighbouring islands. The trees are mostly evergreens, but have not the verdure of our evergreens. Gum trees, acacias, and heaths are the most common. There are no native fruits, except small berries and a kind of chestnut.

45. The various grains, fruits, and vegetables cultivated in America and Europe, have been successfully introduced. Cotton and the wine-grape are important products.

XIII.—46. The native animals are also remarkably different from those of other parts of the world. The greater proportion of the mammals belong to the *marsupialia*, or pouched animals. The largest is the kangaroo, of which there are many species; the most remarkable for its odd appearance is the *ornithorhynchus*, or water-mole.

47. There are no quadrupeds, pachydermata, or ruminantia. The dingo or Australian dog is very destructive to sheep.

The most remarkable birds are the lyre-bird, the emeu, and the black swan. The emeu is sometimes six feet in height.

The cow, sheep, horse, and other domestic animals, have been introduced by Europeans.

XIV.—48. The population is 1,213,000. The greater number are European colonists and their descendants.

The native Australians, sometimes called Papuan Negroes, are of the very lowest type of the human race, both physically and intellectually. They are of a sooty colour, wear little clothing, live in holes in the ground, and subsist on roots and fish. They are rapidly decreasing.

XV. and XVI.—49. Australia comprises five British colonies, situated on the east and south sides:—*Queensland, New South Wales, Victoria, South Australia, and West Australia*. The north and centre are yet uncolonized.

Colonies.	When Estab-lished.	Size of square miles, to which area is equat.	Population in 1901.
Queensland.....	1859	750	565,000
New South Wales.....	1788	400	305,000
Victoria.....	1851	296	548,314
South Australia.....	1834	559	120,830
West Australia.....	1829		15,605

50. *Queensland* is situated in the north-east. The rearing of sheep is the chief occupation. The cultivation of cotton has been successfully introduced.

Brisbane (5000), near the mouth of Brisbane River, is the capital.

51. *New South Wales*, on the east coast, is the oldest colony. The Blue Mountains are remarkable for their deep valleys, enclosed by precipitous cliffs. The rearing of sheep, and gold and coal mining, are the leading pursuits. Grain, vines, tobacco, and fruits are cultivated.



SYDNEY.

Sydney (100,000), on Port Jackson, is the capital. It has an excellent harbour, and large exports of gold and wool. *Newcastle* is near important coal fields.

52. **Victoria**, in the south-east, is remarkable for its rapid advancement. Gold and copper mining and pastoral husbandry are the leading pursuits. The yield of the gold mines from 1851 to 1861 was \$523,000,000.

Melbourne (100,000), on the Yarra-Yarra, eight miles from Port Philip, is the capital. *Geelong* (25,000) exports large quantities of wool.

53. **South Australia** has extensive sandy barrens and salt marshes. Much of the soil is fertile, yielding wheat, grapes, and other products. The Burra-Burra copper mines are exceedingly rich. Wool is largely exported.

Adelaide (30,000), on the Torrens, seven miles from the sea, is the capital.

54. **West Australia** has advanced slowly. It contains lead and copper mines. The products are similar to those of the other colonies.

Perth (2000), on the Swan River, is the capital. *Freemantle* is a convict station.

XVII. and XVIII.—55. The chief pursuits are gold-mining, pastoral husbandry, and agriculture. The principal exports are gold, copper, and wool; the imports are grain, flour, and manufactured goods. Total value of exports, \$125,000,000.

56. The colonies have representative assemblies. The governors are appointed by the British Crown.

TASMANIA OR VAN DIEMEN'S LAND.

57. Tasmania was discovered in 1642 by Tasman, a Dutch navigator. The next visitor was Captain Cook, in 1769. The first British colony was a convict settlement, established in 1803. For several years no convicts have been sent to the island.

58. Tasmania is a heart-shaped island on the south-east of Australia, from which it is separated by Bass Strait, 130 miles wide. It has many good harbours.

59. The area is about the same as that of New Brunswick. The surface is much diversified with mountain-peaks, table-lands, plains, and valleys. Mount Humboldt, in the south-west (5500 feet), is the highest point.

60. The soil is fertile. The climate is humid, temperate, and healthful. Iron, copper, coal, and salt are the mineral products. The native plants are like those of Australia, but are more luxuriant. The animals also are similar to those of Australia.

61. The population is about 90,000. The original inhabitants are now all but extinct.

Hobart Town (22,000), the capital, has a fine harbour on the estuary of the Derwent.

62. The rearing of sheep, agriculture, and whaling, are the chief pursuits.

Tasmania is a British colony, with a government similar to those of the Australian colonies.

NEW ZEALAND.

63. New Zealand was discovered in 1642 by the Dutch navigator Tasman. Captain Cook sailed around it in 1769, and formally proclaimed it as British territory. It was erected into a British colony in 1840.

64. New Zealand comprises the three islands—*Northern Island* or *New Ulster*, *Middle Island* or *New Munster*, and *Stewart Island* or *New Leinster*, besides several small islands. Northern and Middle Islands are separated by Cook's Strait, 25 miles in breadth at the narrowest part.

65. The group is situated about 900 miles east of Tasmania, and is nearly midway between the Cape of Good Hope and Cape Horn. N. lat. 34° 15'—47° 30'; E. long. 166° 30'—178° 30'.

The area is five and a half times greater than that of Nova Scotia, and is chiefly comprised in Northern and Middle Islands.

66. A snow-covered mountain chain extends along the west side of the two northern islands. There are several volcanic peaks and hot lakes.

Mount Egmont (8270 feet) is an extinct volcano. *Mount Cook* (13,200 feet), in Middle Island, is the highest point.

67. There are several rivers. The soil is fertile. The climate is humid, free from extremes of heat and cold, and is very salubrious. Snow is rare except in the south.

The minerals are varied and valuable, embracing coal, iron, gold, silver, copper, and sulphur. There are extensive forests of Australian pines and tree ferns. Many of the plants are peculiar to the country.



NEW ZEALAND FLAX.

The New Zealand flax, which has a large fibrous leaf, is one of the most valuable.

All the grains, fruits, and vegetables of the Temperate Zones are successfully cultivated. Excellent pasturage is abundant.

New Zealand, when discovered by Europeans, had no native quadrupeds except a kind of dog.

68. The British colonists number about 140,000; the natives, 50,000.

The aborigines are of the Malay type, and are called Maories. They are of a copper complexion, well proportioned, have black curling hair, and are much superior to the Australians. They have often engaged in sanguinary wars against the colonists. These people, who are now decreasing in number, were formerly fierce cannibals, drinking the blood and feasting on the bodies of their captive enemies. Many of them have become Christians.

69. The colony is divided into nine provinces.

Auckland (11,000), on North Island, is the capital. *Dunedin* (10,000) is on Middle Island.

The exports are gold, wool, grain, and timber; manufactured goods are imported.

The government is like that of Australia. The revenue is \$5,000,000.

70. *Chatham*, *Antipodes*, *Auckland*, *Campbell*, and *Maquarie* islands, on the east and south of New Zealand, are important stations for those engaged in the whale fisheries of the Southern Seas.

Antipodes is so called from its being nearly opposite London. It is in S. lat. 49° 40', and W. lon. 177° 20'.

71. *Norfolk Island*, to the north of New Zealand, was formerly used by the British Government as the place of exile for criminals of the worst class. It has lately been given to the Pitcairn islanders, who number about two hundred and sixty. The island contains 13 square miles, and is remarkable for its gigantic Norfolk pines.

PAPUA OR NEW GUINEA.

72. Papua is said to signify *crisp-haired*, a characteristic of the natives. The island is wholly in the Torrid Zone, and is separated from Australia by Torres Strait. In shape it somewhat resembles a reptile.

It ranks next to Borneo in size, and is thirteen times larger than Nova Scotia, or equals a square of 490 miles.

73. The highest mountains of Papua are supposed to rise to the height of 13,000 feet, but the interior is not well known. The climate is hot, humid, and unhealthy.

There are large forests, containing sago-palm and camphor trees. Nutmegs, spices, yams, cocoa-nuts, rice, and maize are among the products.

Papua is the native region of the bird of Paradise. There are no large quadrupeds.

74. The western part of the island is claimed by the Dutch. There are no European colonists. The natives, together with those of the same race inhabiting the groups on the east, are supposed to number over 500,000. They are called Papuan Negroes, and are described as very ill-looking. Their hair is not woolly like that of the African, but grows in tufts, and can be stretched out to a great length. They tattoo their bodies, and insert pieces of bone in the nose.

75. The *Louisade Archipelago*, and other groups on the east and south-east, are little known.

New Caledonia, together with the adjoining Isle of Pines, belongs to France. It is one-third the size of Nova Scotia. The island is very fertile, and is rich in coal. Population, 60,000.

76. The *New Hebrides* consist of a long chain of volcanic islands, the principal of which are *Ambrin*, *Anatom*, *Erromango*, *Tanna*, *Aurora*, and *Pate*.

Odoriferous sandalwood is largely exported to China, where it is burned as incense in idol temples.

The inhabitants on some of the islands are very fierce. The missionaries Williams and Gordon were murdered on Erromango. Missionaries from Nova Scotia are still labouring on some of the islands. Population, 200,000.

77. The *Feejee* group are the most easterly islands inhabited by Papuan Negroes. There are about sixty inhabited islands, only two of which are of considerable size. The total area is equal to that of Nova Scotia. The islands are very fertile, yielding cotton, cocoa-nuts, yams, arrow-root, and other tropical produce. Some of the natives have been converted to Christianity by Wesleyan missionaries, others are savage cannibals. They number about 150,000.

POLYNESIA.

78. Polynesia signifies *many islands*. It embraces the numerous groups of the Pacific east of Malaysia and Australasia. The estimated area is about four times that of Nova Scotia.

79. Many of the islands are very beautiful. Some are low and of coralline formation, others are volcanic and elevated. Many are surrounded by coral reefs, enclosing a space of still water with navigable passages to the open sea. Some of the coral islands are in the form of a ring, having a lagoon or lake in the middle.

80. Most of the islands are very fertile. They have a moist, tropical, and healthy climate. The heat is greatly modified by sea breezes.

The vegetation is luxuriant, without great diversity. The bread-fruit tree and cocon-nut palm are the most valuable trees. The other products include yams, sugar-cane, and arrow-root.

81. The cocon-nut palm supplies nearly all the wants of the native. He lies beneath its shade, or builds his house of its timber; he makes clothing of its leaves, finds food and drink in its fruit, and ready-made goblets in its shells.

There are no large native quadrupeds. The sea yields abundance of fish, and sea-birds are numerous.

82. The total population is estimated at 750,000. The inhabitants are generally Malays of a dark brown colour. When first visited by Europeans, all were heathens, worshipping idols, and believing in many superstitions. The priests had great power, and could take any man's property by pronouncing the word *taboo* over it. The property was then considered sacred, and the original owner durst not keep it. Great efforts have been made to convert these people to Christianity, and in most instances with marked success.

83. Polynesia is sometimes divided into Micronesia (*Small Islands*), embracing the islands on the north of the Equator; and Polynesia Proper, including those south of the Equator.

The principal groups on the north of the Equator are the *Bonin*, *Ladrone* or *Mariana*, *Caroline*, *Pelew*, *Marshall*, and *Sandwich Islands*.

Those on the south of the Equator are *Navigators'* or *Samoa*, *Friendly*, *Cook's*, *Austral*, *Society*, *Low Archipelago*, and *Marquesas*.

84. Some of the groups are claimed by European powers, others have native governments.

85. The *Ladrones* (*Thieves*) were so called by Magellan on account of the pilfering habits of the natives. They belong to Spain. Population, 10,000.

86. The *Caroline Islands* are also claimed by Spain. They embrace many widely-scattered coralline groups. The inhabitants subsist largely on fish. The *Pelew* group is on the west, and the *Marshall* on the east.

87. The *Sandwich Islands*, the most important group in Polynesia, occupy a remote position in the north-east, 3000 miles from the coast of Mexico. They are volcanic and mountainous, embracing an area equal to one-third of Nova Scotia.

88. There are eight inhabited islands, of which *Hawaii* or *Owhyhee*, including two-thirds of the whole area, is the most important. It has volcanic peaks nearly 14,000 feet high. Hawaii is memorable as the place where Captain Cook was killed by savages in 1779.

The products are wheat, cotton, coffee, sugar, yams, and arrow-root.

89. The inhabitants, who number about 70,000, are, through the influence of American missionaries, far advanced in civilization. There are many schools and churches. The king embraced Christianity many years ago.

90. *Honolulu* (10,000), on Oahu, is the capital. It is much visited by traders between America and Asia, and also by whalers in the North Pacific.

The government is a limited hereditary monarchy.

91. *Navigators' Islands* received their name from the skill of the natives in making and navigating canoes. They are about equal to Cape Breton in area. The inhabitants number about 35,000, many of whom have professed Christianity.

92. The *Friendly Islands* were named by Captain Cook, who was well received by the natives. They are sometimes called the *Tonga Isles*, from *Tongataboo*, the chief island. The population is about 18,000.

93. *Cook's Islands* are small and scattered. They are generally volcanic and elevated. *Rarabunga*, one of the group, was for many years the field of the missionary Williams.

94. The *Society Islands* are also high and volcanic. They belong to France. *Tahiti*, the largest, equal to one-fifth of Cape Breton, is very beautiful. It contains mountains 10,000 feet high. Total population, 9000.

The *Marquesas*, a volcanic group, are also claimed by the French. Population, 12,000.

95. *Low Archipelago* consists of an immense number of low islands and coral reefs.

96. *Pitcairn Island* is a small, elevated, and solitary island in the south-east of Polynesia. It is noted for its occupation by the mutineers of the ship *Bounty*, who came here in 1790. Having placed their captain in an open boat in the midst of the ocean, the crew sought a refuge from justice. Nine of them, accompanied by six Tahitian men and twelve women, came to Pitcairn's Island, where they remained unknown for many years. When visited in 1825 the colony consisted of sixty-six persons, who were highly moral and industrious. An old man, named Adams, was the schoolmaster. (See 71.)

EXERCISE.—Find the distance from London to Canton by each of the following routes:—

(1.) Westerly, across the Atlantic to Halifax, through British America to Vancouver, and across the Pacific.

(2.) Easterly, through France, across the Mediterranean, Suez Canal, the Red Sea, and the Indian Ocean.

GLOSSARY OF GEOGRAPHICAL TERMS.

Contractions.—G. Greek ; Ger. German ; L. Latin ; Fr. French.

Aborigines (L. *ab*, from ; *origo*, beginning).—The first inhabitants of a country.

Affluent (L. *affluo*, to flow to).—A stream that flows into another ; a tributary.

Antarctic (G. *anti*, opposite ; *arctic*).—Southern.

Antipodes (G. *anti*, opposite ; *podes*, feet).—People who live on opposite sides of the Earth, having the feet directly opposite.

Archipelago (G. *archos*, chief ; *pelagos*, the sea).—A sea on the east of Greece ; a sea containing many islands ; a group of islands.

Arctic (G. *arktos*, a bear, a constellation in the northern heavens).—Northern.

Atmosphere (G. *atmos*, vapour ; *sphaira*, a sphere).—The air which surrounds the Earth.

Atoll.—A circular coral island with a lagoon or lake in the centre, giving it the form of a ring.

Aurora Borealis (L. Northern Morn).—A streaming light originating in the polar heavens ; Northern Lights.

Avalanche (Fr. *aval*, to descend).—A slip of snow from the side of a mountain.

Axis.—An axle ; an imaginary straight line passing through the centre of the Earth.

Barrier Reef.—A reef or rocky wall in the sea, separated from the shore by a narrow channel or lagoon, as on the east coast of Australia.

Basin.—A territory drained by a river and its tributaries ; so called from its hollowed surface ; a small arm of the sea.

Bay.—An inlet of the sea.

Beach.—The land adjoining a sea or lake, washed by the tides and waves.

Bluff.—A high bank overlooking a sea, lake, or river.

Bog.—Wet, spongy ground, containing large quantities of vegetable matter.

Bore.—The front of a tidal wave ascending a river. The bore in some rivers, as the Hoogly, is a wall of water several feet in height, and rushes up with great rapidity.

Cape (L. *caput*, the head).—A point of land running out into the sea ; a headland.

Cascade.—A small waterfall.

Cataract (G. *katartazo*, to throw down violently).—A great waterfall, as Niagara Falls.

Cereal (L. *Ceres*, the goddess of husbandry).—Grain, as wheat, rye, barley, and rice.

Channel.—The bed of a river ; a passage of water connecting two seas.

Climate (G. *klima*, a slope).—The general condition of the weather, especially in respect to heat, moisture, and salubrity.

Coast.—The part of a country which lies near the sea.

Colony.—A settlement in a new country.

Commerce.—Trade ; buying and selling.

Continent.—A large body of land, as North America.

Crater (G. *krater*, a bowl).—The mouth of a volcano.

Creek.—A brook ; a small bay.

Current (L. *curro*, to run).—A stream of water or air.

Cyclone (G. *kuklos*, a circle).—A violent hurricane, moving in a great circle. Cyclones often occur in the Indian Ocean.

Delta (*The name of a letter of the Greek alphabet having a triangular form*).—An alluvial tract of land enclosed between the different channels at the mouths of certain rivers, as the Delta of the Nile.

Desert (L. *desero*, to forsake).—A barren region. Deserts are usually caused by scarcity of rain, or by the presence of a large proportion of salt in the soil.

Doab.—A name given to a tongue of land at the confluence of rivers in India.

Doldrums.—A sea term for the region of calms in tropical seas. They are much dreaded by mariners.

Downs.—The name given to the rounded hills in the south of England.

Dune.—Sand hills formed by the wind.

Earthquake.—A shaking of the Earth's surface, varying in degree from a slight tremor to the most violent agitation. Violent earthquakes are attended by upheavals, depressions, and rents in the ground. They are most common in tropical countries.

Embouchure.—The mouth of a river.

Empire.—A country ruled by an emperor, as France ; a number of countries united under one sovereign, as the British Empire.

Emporium (G. *emporion*, a market-place).—A commercial town.

Equator (L. *aequo*, to make equal).—A great circle passing round the Earth east and west, equidistant from the poles, and dividing the Earth's surface into northern and southern hemispheres.

Estuary (L. *arsuo*, to boil).—The mouth of a river, or the part affected by the tide.

Etesian (G. *etesios*, annual).—A term applied to winds which blow at stated times of year, as the monsoons.

Exotic (G. *exotikos*, foreign).—A plant introduced from abroad.

Exports (L. *ex*, out of ; *porto*, to carry).—Goods sent out of a country.

Fata Morgana.—A mirage observed at sea, by which inverted and distorted images of objects are seen in the air. It is supposed to be caused by the contact of currents of air of unequal density.

Fauna.—The animals of a given country or epoch.

Firth.—An arm of the sea, as the Firth of Forth.

Flora (L. *flor*, a flower).—The plants of a given country.

Frigid (L. *frigidus*, cold).—Cold. (See *ZONE*.)

Geyser.—An Icelandic word applied to the boiling springs of Iceland.

Glacier (*L. glacies*, ice),—A large mass of ice and snow which moves down the more elevated valleys of snow-covered mountains. The Alps are noted for glaciers.

Gulf,—An inlet of the sea, properly with curving shores.

Harbour,—A small inlet of the sea, containing safe anchorage for vessels.

Hemisphere (*G. hemi*, half; *sphaira*, a sphere),—Half a sphere or ball. The Earth is divided by the equator into the northern and southern hemispheres.

Horizon,—The circle which bounds the view, where the earth and sky seem to meet, is called the sensible horizon. A great circle parallel with this, dividing the Earth into the upper and lower hemispheres, is called the rational horizon.

Iceberg (*G. r. eis*, ice; *berg*, a mountain),—A large mass of ice often found floating in polar seas. Icebergs rise from 50 to 200 feet above the water, and about seven-eighths of their bulk are submerged.

Imports (*L. importo*, to bring in),—Goods brought into a country from abroad.

Island,—A portion of land surrounded by water, as Cape Breton. Islands are said to be continental when they are near a continent, and pelagic when in mid ocean.

Isthmus (*G. isthmus*, a neck),—A narrow strip of land connecting countries almost separated by water, as the Isthmus of Panama.

Karoo,—A term applied to the terrace-like plains in South Africa, which are alternately barren wastes and clothed with luxuriant vegetation, according to the season.

Lagoon,—A shallow portion of salt water separated from the sea by a beach or reef. Lagoons within coral reefs are common among the islands of the Pacific.

Land-locked,—A term applied to a sea having a narrow entrance.

Latitude (*L. latitudo*, breadth),—Distance from the equator, measured in degrees on a meridian. It is either north or south, and cannot exceed 90°. The ancients supposed the Earth's measurement was much greater from east to west than from north to south.

Llanos,—A term applied to the level treeless plains in the basin of the Orinoco in South America.

Longitude (*L. longitudo*, length),—Distance east or west from the first meridian, measured in degrees, minutes, and seconds. The highest longitude is 180°.

Meridian (*L. meridies*, noon),—A noon line; an imaginary line passing from pole to pole, and cutting the equator at right angles.

Mirage,—An illusive appearance, resembling a sheet of water with trees and other objects, seen in deserts and level tracts of country, and supposed to be caused by the unequal densities of different strata of air.

Monarchy (*G. monos*, one; *archos*, ruler),—A government in which the supreme power is lodged in one person.

Monsoon (Arabic, *moussin*, season),—A periodical wind of India, blowing half the year from the north-east and the other half from the south-west.

Mountain,—Any great elevation of the Earth's surface above the general level.

Oasis,—A fertile spot in the midst of a desert.

Ocean,—The vast body of salt water which surrounds the Earth. The term is also used in a more limited sense, as the Atlantic Ocean.

Oceania, or **Oceanica**,—A term applied to the islands of the Pacific Ocean, taken collectively.

Pampas,—The treeless plains between the Rio de La Plata and the Andes, in South America. They are covered with tall grass and gigantic thistles. Vast herds of wild cattle and horses roam over the pampas.

Peninsula (*L. pene*, almost; *insula*, an island),—A portion of land nearly surrounded by water, as Nova Scotia.

Plain,—A level open country.

Plateau,—An elevated plain; a table-land.

Pole (*G. polos*, a pivot),—The extremities of the Earth's axis are called the poles—the north pole and the south pole.

Prairie,—A term applied to the grass-covered plains in the basin of the Mississippi.

Promontory,—A high cape; a headland.

Province,—A colony; a dependency; originally a country obtained by conquest.

Reef,—A rocky ridge near the surface of the water.

Republic,—A state or country in which the highest officers of the government are elected for a limited term by the people.

River,—A large stream of water flowing over the land.

Savanna (Spanish, *sabana*, a sheet),—A vast plain, destitute of trees, and covered with grass.

Sea,—A large body of salt water.

Selvas (*L. silva*, a forest),—The name given to the forest plains in the basin of the Amazon.

Shore,—The land bordering on the sea.

Simoom,—A hot, suffocating wind, which blows over the deserts of Arabia.

Sirocco,—A hot wind blowing from Africa to the southern shores of Europe.

Sound,—A narrow and shallow passage of water.

Steppes,—A name given to the plains of Northern Asia.

Strait,—A narrow passage of water.

Tornado,—A violent wind, usually of short duration, and confined to narrow limits.

Torrid (*L. to ridus*, parched),—Very hot. (*See ZONE*.)

Tropic (*G. tropikos*, pertaining to a turning point),—A term applied to two circles, one 23° 28' north of the equator, called the Tropic of Cancer, and the other 23° 28' south, called the Tropic of Capricorn. They mark the limits of the sun's declination north and south. The sun is never vertical beyond the tropics.

Typhoon,—A term applied to the hurricanes occurring in the south-east of Asia and the adjacent islands.

Valley,—A hollow between hills or mountains.

Volcano (*L. Vulcanus*, the god of fire),—A burning mountain. Volcanoes are seldom found very remote from the sea.

Water-shed,—A ridge of land from which streams flow in opposite directions.

Whirlpool,—A circular motion of water caused by the meeting of opposite currents. The Maelström is a celebrated whirlpool on the coast of Norway.

Whirlwind,—A rotatory wind. Whirlwinds at sea produce *water-spouts*; when they blow over sandy deserts they raise vast bodies of sand called *sand-pillars*.

Zone (*G. zone*, a belt),—A band extending around the Earth. The tropics and the polar circles divide the Earth's surface into five zones—the torrid, north temperate, south temperate, north frigid, south frigid.

PRONOUNCING VOCABULARY OF GEOGRAPHICAL NAMES.

KEY TO THE REPRESENTATION OF SOUNDS.

ā, as in *pate*.
 ă, as in *pat*.
 ah, as a in *bar*.
 aw, as a in *ball*.

ē, or ee, as in *meet*.
 ē, as in *met*.
 ô, as in *bone*.
 ô, as in *pot*.

ī, as in *pine*.
 ī, as in *pin*.
 ū, as in *mute*.
 ū, as in *nuf*.

oo, as in *moon*.
 ow and ou, as *ow* in *cow*.
 ai, as in *air*.
 g, as in *go*; j as *g* in *gin*.

Aachen, ... Ah'-ken.
 Aalborg, ... All'-borg.
 Aarhuus, ... Aaw'-hoos.
 Abaco, ... Ab'-a-kô.
 Abbeokutah, ... Ab-be-o-koo'-tah.
 Aberdeen, ... Ab-er-deen'.
 Abomey, ... Ab-o-mă'.
 Aboukir, ... Ab-oo-keer'.
 Abyssinia, ... Ab-is-sin'-e-a.
 Acadie, ... Ak'-a-de.
 Acapulco, ... Ak-a-pool'-ko.
 Acarai, ... Ah-kah-rah'-e.
 Achil, ... Ak'-il.
 Aconcagua, ... Ak-on-kah'-gwah.
 Adamawa, ... Ad-a-mah'-wa.
 Adelaide, ... Ad'-e-lăde.
 Aden, ... Ah'-den (Ā'-den).
 Adige, ... Ad'-e-jê.
 Adirondack, ... Ad-i-ron'-dak.
 Adour, ... Ah-door'.
 Adowa, ... Ah'-do-wah.
 Adrianople, ... Ā-dre-an-ô'-pl.
 Adriatic, ... Ā-dre-at'-ik.
 Ægean, ... Ê-jê'-an.
 Ætna, ... Êt'-nah.
 Afghanistan, ... Ā-f-gan-is-tan'.
 Africa, ... Af'-re-ka.
 Agra, ... Ah'-grah (Ā'-gra).
 Agua, ... Ah'-gwah.
 Agulhas, ... Ah-gool'-yas.
 Ahmedabad, ... Ah-med-ah-bahd'.
 Aidin, ... Ī-deen'.
 Ainslie, ... Āns'-le.
 Airdrie, ... Air'-dree.
 Aix-la-Chapelle, ... Āks-lah-sha-peł'.
 Ajaccio, ... A-yat'-chô.
 Ajaz, ... A-jan'.
 Akabah, ... Ak'-a-bah.
 Akyab, ... Ak-yahb'.
 Alabama, ... Al-sh-bah'-ana.
 Alaud, ... Ah'-land.
 Albany, ... All'-ba-ne.
 Albenarle, ... Al-be-marł'.
 Albyn, ... Āl'-bin.
 Alderney, ... All'-der-ny.
 Alessandria, ... A-les-sahn'-dre-a.

Alentian (Is.), ... A-lŭ'-she-an.
 Alexandria, ... Al-ex-an'-drê-a.
 Algeria, ... Al-jêô'-re-a.
 Algiers, ... Al-jêôrz'.
 Algoa, ... Al-gô'-a.
 Alaska, ... Ahl-yas'-kah.
 Aljazirah, ... Ah-je-zee'-rah.
 Allahabad, ... Ahl-lah-lah-bahd'.
 Alleghany, ... Al'-le-ghā-ne.
 Allon, ... Al'-lo-a.
 Alps, ... Ālps.
 Altal, ... Alt'-l.
 Altamaha, ... Al-ta-ma-haw'.
 Altorf, ... Al'-torf.
 Amager, ... Ah'-mah-ger.
 Amazon, ... Am'-a-zôn.
 Ambrim, ... Am-breem'.
 America, ... A-mer'-e-ka.
 Amhara, ... Am-bah'-rah.
 Amiens, ... Ām'-e-enz (Ah-me-ang').
 Amirante, ... A-me-rant'.
 Amoo, ... Ah-moo'.
 Amoor, ... Ah-moor'.
 Amoy, ... A-moi'.
 Amritsir, ... Am-rit'-sir.
 Amsterdam, ... Am'-ster-dam.
 Anadir, ... An-a-dêô'.
 Anam, ... Ā-nam' (Ā'-nam).
 Anatolia, ... An-a-tô'-le-a.
 Ancona, ... An-kô'-nah.
 Andaman, ... An-da-man'.
 Andes, ... An'-dêez.
 Anegada, ... A-ne-gah'-dah.
 Angara, ... An-gah-rah'.
 Anglesey, ... Ang'-gl-se.
 Angola, ... An-gô'-lah.
 Angora, ... An-gô'-rah.
 Angra, ... An'-grah.
 Anguilla, ... An-gwil'-lah.
 Anhalt, ... Ahn'-halt.
 Ankobar, ... An-kô'-bar.
 Annabona, ... An-na-bô'-na.
 Annan, ... An'-nan.
 Annapolis, ... An-nap'-o-lls.
 Anaton, ... An-na-tôm'.
 Annobon, ... An-no-bôn'.

Anticosti, ... An-te-kôs'-te.
 Antigua, ... An-tê'-gah.
 Antilles, ... An-têlz'.
 Antiparos, ... An-tip'-a-rôs.
 Antisana, ... An-tê-sah'-nah.
 Antrim, ... An'-trim.
 Antwerp, ... Ant'-wurp.
 Apalachee, ... Ap-a-lah'-che.
 Apennines, ... Ap'-pen-nînes.
 Appalachian, ... Ap-pa-lă'-che-an.
 Apure, ... A-poor'-li.
 Arabia, ... Ar'-ă-be-a.
 Aracan, ... Ar-a-kan'.
 Arafura, ... Ar-a-foô'-ra.
 Aragon, ... Ar'-a-gon.
 Aral, ... Ar'-al.
 Ararat, ... Ar'-a-rat.
 Arauca, ... Ah'-raw'-kah.
 Araxes, ... Ar-ax'-es.
 Arbela, ... Ahr-bê'-lah.
 Arbroath, ... Ar-brôthe' (Ar'-).
 Archangel, ... Ark-an'-jel.
 Archipelago, ... Ar-ke-peł'-a-go.
 Arcot, ... Ar-kot' (Ar'-kot).
 Arctic, ... Ark'-tik.
 Ardnamurchau, ... Ard-na-mŭr'-kan.
 Arequipa, ... Ar-e-kêô'-pah.
 Argenteuil, ... Ar-zhan-tool'.
 Argos, ... Ahr'-gos.
 Argyle, ... Ar-gyle'.
 Arica, ... Ar-rêk'-ah.
 Arichat, ... Ar'-e-shat.
 Arizona, ... Ar-e-zô'-nah.
 Arkansas, ... Ar-kan'-ans.
 Arklow, ... Ark'-lô.
 Armagh, ... Ahr-mah'.
 Armenia, ... Ar-mêô'-ne-a.
 Arran, ... Ar'-ran.
 Arru, ... Ar-roo'.
 Ascension, ... As-sen'-shun.
 Ashantee, ... Ash-an-têô'.
 Asia, ... Ā'-she-a.
 Assam, ... As-sām'.
 Assiniboine, ... As-sin'-e-boin.
 Assyria, ... As-sir'-e-a.
 Astrakhan, ... As-tra-kan'.

Asturias,	As-too'-re-as.	Baton-Rouge,	Bah-tu-roozh'.	Bologna,	Bo-lōne'-yah.
Atbara,	Āt-bah'-rah.	Bavarie,	Ba-vā'-re-a.	Bolor Tagh,	Bo-lor'-tagh'.
Athabasca,	Āth-a-bas'-ka.	Bayonne,	Bah-yon'.	Bombay,	Bōm-bā'.
Athens,	Āth'-ens.	Beauce,	Bōce.	Bona,	Bō'-nah.
Athlone,	Āth-lōne'.	Beaufort,	Bū'-fort.	Bonaventure,	Bōn-ah-vang-toor'.
Athy,	Ā-thī' (Āth'-e).	Beauharnois,	Bō-har-nwū'.	Bonin,	Bo-neen'.
Atlantic,	Āt-lan'-tik.	Beaumaris,	Bō-mā'-ris.	Bonnechere,	Bōn-shair'.
Auckland,	Awk'-land.	Becancour,	Bā-kōng-koor'.	Boothia,	Boo'-the-a.
Augsburg,	Awgs'-boorg (Owgs'-).	Bechuanas,	Bēt-choo-ah'-naz.	Bordeaux,	Bōr-dō.
Anrumbabad,	Aw-rung-a-ba'l.	Begharmi,	Be-gar'-mē.	Borneo,	Bor'-ne-ō.
Austerlitz,	Aws'-ter-litz (Ows'-).	Behring,	Beer'-ing.	Bornholm,	Bor'-holm.
Australasia,	Aws-tral-ā'-she-a.	Bel-ed-el-Jerd,	Bēl'-ed-el-je-rēd'.	Bornou,	Bor-noo'.
Australia,	Aws-trā'-lē-a.	Belfast,	Bēl-fast' (Bēl'-).	Bosna-serai,	Bos'-nah-ser-Y'.
Austria,	Aws'-tre-a.	Belgium,	Bēl'-je-um.	Bosphorus,	Bos'-fō-rus.
Auvergne,	Ō-vairn'.	Belgrade,	Bēl-grāde'.	Bosporus,	Bos'-po-rus.
Ava,	Ā'-va (Āh'-vah).	Bellechasse,	Bēl-shahs'.	Bothnia,	Bōth'-ne-a.
Avalon,	Āv'-a-lōn.	Belle Isle,	Bēl-īle'.	Boulardarie,	Boo'-lar-dre.
Avignon,	Āh-vēon-yong'.	Belleville,	Bēl-vil' (-vēl').	Boulogne,	Boo-lōne'.
Avon,	Ā'-von.	Beloochistan,	Bel-oo-chis-tan'.	Bourbon,	Boor'-bon (-bōng').
Awe,	Aw.	Belper,	Bēl'-per.	Bouro,	Boo'-ro.
Axum,	Ahk-soom'.	Benares,	Bēn-ah'-rēz.	Brabant,	Brah-bant'.
Aylesbury,	Āles'-ber-e.	Ben Attow,	Bēn-ā'-tow.	Braga,	Brah'-gah.
Aylmer,	Āle'-mur.	Benbecula,	Bēn-bā-koo'-lah.	Brahmapootra,	Brah-ma-poo'-tra.
Ayr,	Air.	Ben-coolen,	Bēn-koo'-lēn.	Bras d'Or,	Brah-dōre'.
Azof,	Az'-of.	Bengal,	Bēn-gaw'l.	Brazil,	Bra-zēl' (-zil').
Azores,	A-zōres'.	Benguela,	Bēn-gā'-lah.	Brazos,	Brah'-zos.
		Benicia,	Be-nish'-e-a.	Brechin,	Brēk'-in.
		Benin,	Be-nēen'.	Bremen,	Brēm'-en.
Baalbec,	Bahl'-bek (-bek').	Ben Lomond,	Bēn-lō'-mond.	Brescia,	Bresh'-e-ah.
Baba,	Bah'-bah (-bah').	Ben Macdhui,	Bēn-māk-doo'-e.	Breslau,	Bres'-law.
Bab-el-Mandeb,	Bah-bel-mahn'-deb.	Ben Nevis,	Bēn-nē'-vis.	Bretagne,	Bre-tahn'.
Baden,	Bah'-den (Bā-).	Ben Wyvis,	Bēn-wī'-vis.	Brighton,	Brī'-ton.
Bagdad,	Bag'-dad (-dad').	Berbice,	Be-rb'-e-ē.	Brisbane,	Bris'-bane.
Bahamas,	Ba-hā'-maz.	Bergamo,	Bur'-ga-mō.	Britain,	Brit'-tn.
Bahia,	Bah-ā'-ah.	Bergen,	Burg'-en.	Brittany,	Brīv'-ta-ne.
Bahr el Azrek,	Bahr-el-az'-rēk.	Berkshire,	Burk'-shēer.	Brocken,	Brōk'-en.
Baikal,	Bī'-kāl.	Berlin,	Ber-līn' (Ber'-).	Bruges,	Broo'-jez.
Baku,	Bah-koo'.	Bermudas,	Be-rmōō'-dāz.	Brunn,	Broon.
Balearic,	Bāl-e-ar'-Ik.	Berne,	Bērne.	Brusa,	Broo'-sah.
Balize,	Bā-lēez'.	Berthier,	Be-rte-ā'.	Brussels,	Brus'-sels.
Balkan,	Bahl-khan'.	Berwick,	Be-r'-wick (-rik).	Buchan-Ness,	Bāk-an-nes'.
Balkash,	Bahl-kash'.	Besançon,	Bā-zang-song'.	Bucharest,	Boo-kā-rest'.
Ballina,	Bāl-le-nah'.	Bethany,	Beth'-a-ne.	Bucharia,	Boo-kā'-re-a.
Ballinasloe,	Bāl-lin-a-slō'.	Bethlehem,	Beth'-le-hem.	Buctouche,	Buk-toosh'.
Ballymena,	Bāl-le-mō'-na.	Beyrout,	Bā'-root (Bī'-).	Buda,	Boo'-dah (Bū-).
Ballyshannon,	Bāl-le-shan'-non.	Bhotan,	Boo-tahn'.	Buen Ayre,	Bwen-Y-rā.
Balmoral,	Bāl-mō'-ral.	Biafra,	Be-af'-ra.	Buenos Ayres,	Bwā-nos-Y'-res.
Bamberg,	Bām'-burg.	Bieque,	Bē-ā'-kā.	Bug,	Boog.
Bamian,	Bah-me-ahn'.	Bilbao,	Bil-bah'-o.	Bushire,	Boo-sheer'.
Banda Oriental,	Bahn'-dah-ō-re-ēn-tal'.	Bilston,	Bils'-ton.		
Banff,	Bamff.	Birmingham,	Bur'-ming-ham.	Cabes,	Kahb'-ēz.
Bankok,	Bān-kōk'.	Biscay,	Bis'-kā.	Cabool,	Kah'-bool'.
Bannockburn,	Bān'-nōk-burn.	Blairgowrie,	Blair-gow'-re.	Cabrera,	Kah-brā'-rah.
Barbadoes,	Bar-bā'-dōz.	Blanc (Mont),	Mōng-blōng'.	Cadis,	Kā'-diz.
Barbuda,	Bar-boō'-dah.	Blanco,	Blan'-kō.	Caermarthen,	Ker-mar'-then.
Barca,	Bar'-kah.	Blasquet,	Blas'-ket.	Caernarvon,	Ker-nar'-von.
Barcelona,	Bar-ā-lō'-nah.	Bodrun,	Bo-droon'.	Cagliari,	Kah'-yah-re.
Barmen,	Bar'-men.	Bogota,	Bō-go-tah' (-gō').	Caicos,	KY'-kos.
Baroda,	Bar-ō'-da.	Bohmerwald,	Bō-mer-wawld.	Cairn Gorm,	Karn-gorm'.
Barra,	Bar'-rah.	Boisee,	Bwah-zā'.	Cairo,	KY'-rō.
Basel,	Bah'-al.	Bois le Duc,	Bwah-le-dook'.	Caithness,	Kāth'-ness.
Basle,	Bahl.	Bokhara,	Bo-kah'-rah.	Calabar,	Kal-a-bar'.
Bassorah,	Bahs'-so-rah.	Bolan,	Bo-lahn'.	Calais,	Kal'-is.
Bastia,	Bas-tēē'-ah.	Boli,	Bō'-lee.	Calcutta,	Kal-kut'-ta.
Batavia,	Ba-tā'-ve-a.	Bolivia,	Bo-liv'-e-a.	Calicut,	Kal'-l-kut.
Batiscan,	Bah-t-is-kalin'.				

California, ...	Kal-e-for'-ne-a.	Champlain, ...	Shām-plāne'.	Corsica, ...	Kōr'-se-kah.
Callao, ...	Kāl-yah'-o.	Chandernagore, ...	Shān-der-na-gōre'.	Corunna, ...	Ko-r'n-nah.
Cambay, ...	Kām-bā'.	Chapala, ...	Shah-pah'-lah.	Costa Rica, ...	Kōs'-tah Rēe'-kah.
Cambodia, ...	Kām-bō'-de-a.	Charlotte, ...	Shār-lōt.	Coteau, ...	Kō-tō'.
Cambrai, ...	Kām-brā'.	Charybdis, ...	Ka-rib'-dis.	Cotopaxi, ...	Kō-tō-pāx'-e.
Cambridge, ...	Kāme'-bridge.	Chattahooche, ...	Chāt-ta-hoo'-che.	Cracow, ...	Krā'-kō.
Cameroon, ...	Kām-er-roon'.	Chedabucto, ...	Shed-a-būk'-to.	Cremona, ...	Kre-mō'-nah.
Campagna, ...	Kām-pahn'-yah.	Chelmsford, ...	Chēms'-ford.	Crete, ...	Krēēt.
Campeachy, ...	Kām-pē'-che.	Chelsea, ...	Chēl'-sē.	Creuse, ...	Krooze.
Canada, ...	Kān'-a-dah.	Cheltenham, ...	Chēl'-tēn-hām.	Crieff, ...	Krēēf.
Canaries, ...	Ka-nā'-rēēz.	Cherbourg, ...	Shēr'-burg.	Crimea, ...	Krim'-ē-ah.
Canaveral, ...	Kān-yah'-ver-al.	Chesapeake, ...	Chēs'-a-pēek.	Croagh Patrick, ...	Krō'-ah Pat'-rik.
Candahar, ...	Kān-dah-har'.	Cheviot, ...	Chēv'-e-ōt.	Cromarty, ...	Krōm'-ar-te.
Candia, ...	Kān'-de-ah.	Chicago, ...	Shē-kaw'-gō.	Cronstadt, ...	Krōn'-stāt.
Canso, ...	Kān'-so.	Chichen, ...	Chē'-chēn'.	Culebra, ...	Koo-lā'-brah.
Canterbury, ...	Kān'-ter-ber-re.	Chichester, ...	Chitch'-es-ter.	Culloden, ...	Kūl-lō'-dēn.
Cantire, ...	Kān-tīre'.	Chiegnecto, ...	Shīg-nēk'-to.	Cupar, ...	Koo'-par.
Canton, ...	Kan-ton'.	Chili, ...	Chēē'-le.	Curaçoa, ...	Ku-ra-sō'-ah.
Cape Breton, ...	Kāpe-brīf'-tn.	Chiloe, ...	Chē-lo-ā'.	Curische Hafl, ...	Koo'-rish-e-haff'.
Cape d'Or, ...	Kāpe-dōre'.	Chimborazo, ...	Chīm-bo-rah'-zo.	Cutch, ...	Kūteh.
Caprera, ...	Kah-prā'-rah.	Chincha, ...	Chīn'-chah.	Cuzco, ...	Kooz'-kō.
Capua, ...	Kap'-u-ah.	Cholula, ...	Kō-loo'-lah.	Cyclades, ...	Sik'-lah-dēēs.
Caraccas, ...	Ka-rak'-kas.	Christiania, ...	Kris-te-ah'-ne-a.	Cyprus, ...	Sī'-prus.
Cardiff, ...	Kar'-dif.	Chuquisaca, ...	Choo-ke-sah'-kah.		
Cardigan, ...	Kar'-de-gan.	Cincinnati, ...	Sin-sin-nah'-tē.	Dacotah, ...	Dah-kō'-tah.
Carlingford, ...	Kar'-ling-ford.	Civita Vecchia, ...	Chēe'-ve-tah-vēk'-ke-ah.	Dago, ...	Dah'-gō.
Carlisle, ...	Kar-līle'.	Clackmannan, ...	Klāk-man'-nān.	Dahomey, ...	Dah-hō'-mā.
Carlsrona, ...	Karls-kro'-nah (-kroo').	Clones, ...	Klōnz.	Dalhousie, ...	Dāl-hoo'-ze.
Carlsruhe, ...	Karls'-roo.	Clonmel, ...	Klōn-mēl.	Dalkeith, ...	Dāl-kēēth'.
Carnsore, ...	Karn'-sore.	Clyde, ...	Klīde.	Damascus, ...	Da-mahs'-kus.
Carpathian, ...	Kar-pā'-the-an.	Coanza, ...	Kō-an'-za.	Damietta, ...	Dām-e-ē'-ta.
Carpentaria, ...	Kar-pen-tah'-re-a.	Coblentz, ...	Kōb'-lents.	Danish America, ...	Dānē'-ish A-mēr'-e-kah.
Carrickfergus, ...	Kar-rik-fer'-gus.	Coburg, ...	Kō'-boorg.	Dantzic, ...	Dant'-zik.
Carron, ...	Kar'-ron.	Cochin, ...	Kō'-chīn.	Danube, ...	Dan'-ūbe.
Cartagena, ...	Kar-ta-gē'-nah.	Coimbra, ...	Kō-im'-brah.	Dardanelles, ...	Dar-dā-nēl'.
Cashel, ...	Kāsh'-el.	Cojutepeque, ...	Kō-hoo-tā-pā'-kā.	Darfur, ...	Dar'-foor'.
Cashgar, ...	Kāsh'-gar (-gar').	Colchester, ...	Kōlē'-chēs-ter.	Darien, ...	Dā'-rē-en.
Cashmere, ...	Kāsh'-mere (-mere').	Colima, ...	Kō-lēē'-mah.	Debreczin, ...	Dā-brēt'-sin.
Caspian, ...	Kas'-pe-an.	Colmar, ...	Kōl-mar'.	Deccan, ...	Dēk'-kān.
Cassiquiare, ...	Kās-se-ke-ah'-rā.	Cologne, ...	Kō-lōne'.	Delagoa, ...	Dēl-a-gō'-a.
Castile, ...	Kas-tēēl'.	Colorado, ...	Kōl-o-rah'-do.	Delaware, ...	Dēl'-a-wāre.
Castlebar, ...	Kas-sal-bar'.	Columbia, ...	Kō-lum'-be-a.	Delhi, ...	Dēl'-le.
Catania, ...	Ka-tah'-ne-a.	Comayagua, ...	Kō-mī-ah'-gwah.	Demavend, ...	Dēm-a-vēnd'.
Catoche, ...	Kah-tō'-chā.	Comino, ...	Kō-mēē'-no.	Dembea, ...	Dēm'-be-a.
Cattogat, ...	Kat'-to-gat.	Como, ...	Kō-mō.	Demerara, ...	Dēm-e-rah'-rah.
Caucasus, ...	Kaw'-kah-sus.	Comorin, ...	Kōm'-o-rīn.	Dmigh, ...	Dēm'-be.
Caughnawaga, ...	Kaw-na-waw'-gah.	Comoro, ...	Kōm'-o-ro.	Denmark, ...	Dēm'-mark.
Cauvery, ...	Kaw'-ver-e.	Congo, ...	Kōng'-go.	Deptford, ...	Dēd'-furd.
Cavan, ...	Kav'-an.	Connaught, ...	Kon'-nawt.	Derby, ...	Dur'-be (Dar'-be).
Cawnpore, ...	Kawn-pōre'.	Connecticut, ...	Kōn-nēt'-e-kūt.	Derwent, ...	Der'-went.
Cayenne, ...	Ki-ēn'.	Connemara, ...	Kōn-e-mar'-ah.	Desaguadero, ...	Dēs-a-gwah-dā'-ro.
Caynga, ...	Kā-yū'-gn.	Constance, ...	Kōn'-stance.	Desirade, ...	Dā-zee-rahld'.
Celebes, ...	Sel'-e-bēēs.	Constantinople, ...	Kōn-stān-tē-nō'-pl.	Des Moines, ...	De-moin'.
Cenis, ...	Sēn'-is.	Contessa, ...	Kōn-tēs'-sah.	Detroit, ...	De-troit'.
Cenis (Mont), ...	Mōng-sē-nēē'.	Coomassie, ...	Koo-mas'-se.	Deutschland, ...	Doitch'-lant.
Cephalonia, ...	Sēfa-lō'-ne-a.	Copenhagen, ...	Kōpēn-hā'-gēn.	Devon, ...	Dēv'-on.
Ceram, ...	Sē-rām'.	Copiapó, ...	Kō-pe-ah'-pō (-pō').	Dieppe, ...	Dēēp'.
Cerigo, ...	Sēr'-e-go.	Coquet, ...	Kō'-ket.	Dingwall, ...	Dīng'-wall.
Cervin, ...	Sūr'-vin (-vang').	Cordillera de Coa- } hulla, ... } hulla, ... }	Kōr-dīl'-le-rah-dā-Kō-ah- wēē'-lah.	Dnieper, ...	Nēēp'-er.
Ceuta, ...	Sū'-ta.	Cordova, ...	Kōr'-do-vah.	Dniester, ...	Nēēs'-ter.
Cevennes, ...	Sū-vēn'.	Corentyn, ...	Kō-rēn-tīnē'.	Dolgelly, ...	Dol-gel'-le (-gēth').
Ceylon, ...	Sēē'-lon (-lōne').	Corfu, ...	Kōr'-foō'.	Dollart, ...	Dol'-lart.
Chaleur, ...	Shah'-loor'.	Cornwall, ...	Kōrn'-wall.	Dominica, ...	Dōm-e-nēē'-kah.
Chambly, ...	Shām'-blē.	Corrientes, ...	Kōr-re-ēn'-tes.	Doncaster, ...	Dōnk'-as-ter.
Chamouni, ...	Shā-moo-nēē'.			Donegal, ...	Dōn-e-gaw'l.

Dongola,	Dōng'-go-lah.	Enniscorthy,	Ēn-nis-kōr'-the.	Galashiels,	Gal-ah-sheels'.
Dorchester,	Dōr'-ches-ter.	Enniskillen,	Ēn-nis-kil'-lĕn.	Galena,	Gā-lĕ'-na.
Dornoch,	Dōr'-nōk.	Erbil,	Ēr-bēl'.	Galicla,	Gah-lĕē'-she-a.
Dorset,	Dōr'-set.	Ericht,	Ēr'-ikt.	Gallas,	Gāl'-laz.
Donro,	Doo'-ro.	Erie,	Ē'-rē.	Gallinas,	Gāl-lĕē'-nas.
Dover,	Dō'-ver.	Erin,	Ē'-rin.	Gallipoli,	Gāl-lip'-o-le.
Dovrefield,	Dōv-re-fe-ld'.	Erivan,	Ēr-e-van'.	Galloway,	Gāl'-lo-wā.
Drakensburg,	Drah'-kens-burg.	Erlau,	Ēr'-lou.	Galt,	Gawit.
Drave,	Drāve (Drahv).	Erne,	Ērn.	Galway,	Gawl'-wā.
Dresden,	Drĕz'-dĕn.	Erris,	Ēr'-ris.	Gambia,	Gām'-be-ah.
Drogheda,	Drog'-e-da (Drōi'-he-da).	Erromango,	Ēr-ro-man'-go.	Gananoque,	Gah-nah-nōke'.
Drontheim,	Drōn'-time.	Erzeroum,	Ū'-ze-room (Ūr'-room').	Ganges,	Gān'-jĕz.
Dublin,	Dub'-lin.	Erz-gebirge,	Ērts-gā-bĕēr'-gā.	Garda,	Gar'-dah.
Dubuque,	Du-bōōk'.	Esneh,	Ēs-nĕh.	Gariep,	Gah-rĕēp'.
Dumbarton,	Dūm-bar'-ton.	Essex,	Ēs'-sex.	Garonne,	Gah-ron'.
Dumfries,	Dūm-frĕēs'.	Essiquibo,	Ēs-se-kō'-bō.	Gaspe,	Gahs-pā'.
Dunbar,	Dūn-bar'.	Etua,	Ēt-nah.	Gata,	Gāh'-tah.
Dunblane,	Dūn-blāne'.	Eubœa,	Ū-bĕē'-ah.	Gatineau,	Gah-tee-nō'.
Duncansby,	Dūnk'-ans-be.	Euphrates,	Ū-frā'-tĕz.	Geelong,	Ge-long'.
Dundalk,	Dūn-dawk'.	Europe,	Ū-rope.	Geneva,	Je-nĕē'-vah.
Dunedin,	Dūn-ĕd'-in.	Everest,	Ēv'-e-rest.	Genoa,	Jĕn'-o-ah.
Dunfermline,	Dūn-furm'-lin (-fur').	Evora,	Ēv'-o-rah.	Georgia,	Jor'-jĕ-ah.
Dungannon,	Dūn-gān'-non.	Exeter,	Ēx'-e-ter.	Germany,	Jur'-ma-ne.
Dungarvon,	Dūn-gar'-von.	Falkirk,	Fal'-kirk (-kirk').	Ghats,	Gawts.
Dungeness,	Dūn-je-ness'.	Falmouth,	Fal'-mouth.	Ghent,	Gent.
Dunkeld,	Dūn-keld'.	Farne,	Farn.	Ghizeh,	Gĕē'-zeh.
Dunkirk,	Dūn-kirk' (Dun').	Faroe,	Fah'-ro (Fā-).	Ghuznee,	Gūz'-nee.
Dunmanus,	Dūn-man'-us.	Fayetteville,	Fā'-et-vil.	Gibraltar,	Jib-rawl'-tar.
Dunmore,	Dūn-mōre'.	Feejee,	Fĕē'-jĕē.	Gihon,	Jĕ-hon'.
Dunoon,	Dūn-oon'.	Fermanagh,	Fĕr-mah'-nah.	Gilolo,	Jĕ-lō'-lo.
Dunse,	Dunce.	Fermoy,	Fĕr-moy'.	Girgeh,	Jĕēr'-jeh.
Durham,	Dur'-am.	Fernando Po,	Fĕr-nan'-do-pō.	Girgenti,	Jir-jĕn'-te.
Dusseldorf,	Dūs'-sel-dorf.	Ferrara,	Fĕr-rah'-rah.	Glamorgan,	Gla-mor'-gan.
Dwina,	Dwī'-nah.	Ferrole,	Fĕr-rōle'.	Glasgow,	Glās'-gō.
Earn,	Urn.	Fezzan,	Fĕz-zahn'.	Gloucester,	Glōs'-ter.
Ebro,	Ē'-bro.	Finisterre,	Fīn-is-tair'.	Goa,	Gō'-ah.
Ecbatana,	Ēk-bāt'-a-nah.	Finland,	Fīn'-land.	Gobi,	Gō'-bĕē.
Ecuador,	Ēk-wah-dōre'.	Finmark,	Fīn'-mark.	Godavery,	Gō-dah'-ver-e.
Edinburgh,	Ēd'-in-bur-ruh (-burg).	Finster-Aar-Horn,	Fīn'-ster-ahr'-horn.	Goderich,	Gōde'-ritch.
Egmont,	Ēg'-mont.	Flam-borough,	Flām'-bur-ro.	Golconda,	Gōl-kōn'-dah.
Egripi,	Ēg'-re-po.	Flensburg,	Flĕns'-boorg.	Gondar,	Gōn'-dar.
Egypt,	Ē'-jipt.	Florence,	Flōr'-ence.	Goree,	Go-rā.
Ehrenbreitstein,	A-ren-brīte'-stīne.	Flores,	Flōr'-rēs.	Gothenburg,	Gōt'-en-burg.
Eigg,	Ēeg.	Florida,	Flōr'-e-dah.	Gottingen,	Gōt'-ting-en.
Elba,	Ēl'-ba.	Fogo,	Fō'-gō.	Gottland,	Gōt'-land.
Elbe,	Ēlb.	Fontainebleau,	Fōn-tāne-blō'.	Gozo,	Gōt'-zo.
Elberfeld,	Ēl'-ber-felt.	Foo-chow-foo,	Fōo-chow-fōō'.	Gracios-a-Dios,	Grah'-se-os-ah-dĕ'-ōs.
Elburz,	Ēl'-boorz.	Forfar,	Fōr'-far.	Grampians,	Grām'-pe-ans.
Elephanta,	Ēl'-e-fān'-tah.	Formentara,	Fōr-mĕn-tā-rah.	Granada,	Grah-nah'-dah.
Eleuthera,	Ē-lū'-the-rah.	Formosa,	Fōr-mō'-sah.	Grand Chaco,	Grah-n-chah'-kō.
Elgin,	Ēl'-gin.	Fremont,	Frĕ'-mont.	Grand Manan,	Grand-ma-nan'.
El Kahirah,	Ēl-kah'-he-rah.	Fribourg,	Frī'-burg.	Grand Pré,	Grang-prā'.
Ellesmere,	Ēl'-lĕs-mĕre.	Frio,	Frĕē'-o.	Granicus,	Grān'-ī-kus.
Ellora,	Ēl-lō'-rah.	Frische Haff,	Frish'-e-haff.	Gratz,	Grĕts.
Elmina,	Ēl-mĕē'-nah.	Funchal,	Foon-shal'.	Greenock,	Grĕē'-nok.
El Paso,	Ēl-pah'-so.	Fundy,	Fūn'-de.	Greenwich,	Green'-idj.
Elsinore,	Ēl-sin-ōre'.	Funen,	Fōō'-nen.	Groningen,	Grōn'-ing-en.
Elva,	Ēl'-va.	Furukabad,	Fur-ruk-a-had'.	Guadalaviar,	Gwah-da-lah'-ve-ar (-ar').
Ely,	Ēl'-lee.	Fyzabad,	Fī-za-had'.	Guadalaxara,	Gwah-da-lax-ah'-rah.
Embsen,	Ēmb'-den.	Gabarus,	Gah-bah-roos'.	Guadalquivir,	Gwah-dal-ke-vĕēr'.
Ems,	Ēms.	Gaeta,	Gah-ā'-tah.	Guadeloupe,	Gaw-de-loop'.
Enfume,	Ang-fū-mā'.	Galatz,	Gah'-atiz.	Guadiana,	Gwah-de-ah'-nah.
England,	Ing'-gland.	Galapagos,	Gah-lah'-pah-gōs.	Guanaxuato,	Gwah-na-hwah'-to.
Ennis,	Ēn'-nis.			Guardafui,	Gwar-daf-wĕē'.
				Guatemala,	Gwah-te-mah'-lah.

Guaviare, ... Gwah-ve-ah'-rā.
 Guayaquil, ... Gwī-a-kēōl'.
 Guernsey, ... Gurn'-ze.
 Guiana, ... Gō-ah'-nah.
 Guildford, ... Gīl'-ford.
 Guinea, ... Gīn'-e.
 Gwalior, ... Gwah'-le-ōr.

Haarlem, ... Hahr'-lēm.
 Haddington, ... Hād'-ding-ton.
 Hadramaut, ... Hah-drah-mout'.
 Haemus, ... Hē'-mus.
 Hagne, ... Hāg.
 Hainan, ... Hī-nan'.
 Haldimand, ... Hāl'-de-mand.
 Halle, ... Hahl'-le.
 Hamadan, ... Hah-mah-dahn.
 Hamah, ... Hah'-mah.
 Hamburg, ... Hām'-burg.
 Hammerfest, ... Ham'-mer-fest.
 Hampshire, ... Hamp'-shēr.
 Hang-chow-foo, ... Hahng'-chow-foo'.
 Hanover, ... Hān'-o-ver.
 Hartlepool, ... Hār'-il-pool.
 Hartz, ... Hār'ts.
 Hastings, ... Hāste'-ings.
 Hatteras, ... Hāt'-te-ras.
 Havel, ... Hah'-vel.
 Hawaii, ... Hah-wī'-e.
 Hawash, ... Hah'-wash.
 Hawick, ... Haw'-ik (-wick).
 Hayti, ... Hā'-te.
 Hebrides, ... Hēb'-ri-dēēz.
 Hedjaz, ... Hej-ahz'.
 Heidelberg, ... Hē-del-burg.
 Heligoland, ... Hēl'-e-go-land.
 Helsingfors, ... Hēl'-sing-fors.
 Henlopen, ... Hēn'-lō-pen.
 Herat, ... Hēr-ah't'.
 Herculaneum, ... Hēr-ku-lā'-ne-um.
 Hereford, ... Hēr'-e-ford.
 Hertford, ... Hār'-ford.
 Hesse-Cassel, ... Hēss-kās'-sel.
 Hesse-Darmstadt, ... Hēss-darm'-stāt.
 Hesse-Homburg, ... Hēss-hom'-burg.
 Hiemar, ... Hyēl'-mar.
 Hillah, ... Hīl'-lah.
 Himalaya, ... Hīm-a-lī'-a (-lā'-yah).
 Hindoo Koosh, ... Hīn'-doo-koosh.
 Hindostan, ... Hīn'-dos-tan'.
 Hispaniola, ... Hīs-pān'-e-ō'-la.
 Hsiao-Ho, ... Ho-ang'-hō.
 Hohenlinden, ... Ho-en-līn'-den.
 Holland, ... Hōl'-land.
 Holstein, ... Hōl'-stīne.
 Holyhead, ... Hōl'-e-hed.
 Holywell, ... Hōl'-e-well.
 Homs, ... Hōmes.
 Honduras, ... Hōn'-doo'-ras.
 Honolulu, ... Hōn-o-loo'-loo.
 Hoogly, ... Hoog'-le.
 Huddersfield, ... Hūd'-ders-field.
 Hue, ... Hwā (Hoo'-ā).
 Humber, ... Hūm'-ber.
 Hungary, ... Hung'-ga-re.

Hurdwar, ... Hurd-war'.
 Huron, ... Hū'-ron.
 Hydra, ... Hē'-drah.
 Hyeres, ... He-air'.

Iberville, ... I'-ber-vil.
 Ida, ... I'-dah.
 Idaho, ... I'-da-ho.
 Idria, ... Id'-re-ah.
 Idumea, ... Id-oo-mē'-ah.
 Ierne, ... I-ār'-ne.
 Illi, ... E'-lee.
 Illinois, ... Il-le-nois' (-nōl').
 Inagua, ... E-nah'-gwah.
 India, ... In'-de-a (-je-).
 Indies, ... In'-dēēz (-jīz).
 Indore, ... In-dōrē'.
 Indus, ... In'-dus.
 Innsbruck, ... Ins'-prook.
 Inverary, ... In-ve-rā'-re.
 Inverness, ... In-ver-nēss'.
 Iona, ... I-ō'-nah.
 Ionian, ... I-ō'-ne-an.
 Iowa, ... I-ō-wah.
 Ipsambul, ... Ip-sam-bool'.
 Ipswich, ... Ips'-wich.
 Irak Arabi, ... E-rak'-ar'-a-be.
 Iran, ... E-rahn'.
 Ireland, ... Ire'-land.
 Irkutsk, ... Ir-kootsk'.
 Irrawaddy, ... Ir-ra-wōd'-de.
 Irish, ... Ir'-tish.
 Irvine, ... Ūr'-vin.
 Islay, ... I'-lay.
 Ismael, ... Is-mah-ēōl'.
 Ispahann, ... Is-pa-hahn'.
 Italy, ... It'-a-le.
 Itasca, ... I-tas'-kah.
 Iviza, ... E-vēē'-zah.
 Iztaccihuatl, ... Eēs-tak-se-hwat'l'.

Jacques Cartier, Zhak-car-te-ā'.
 Jaffa, ... Jāf'-fah (Yaf'-fah).
 Jamaica, ... Ja-mā'-kah.
 Japan, ... Ja-pān'.
 Jassy, ... Yās'-see.
 Java, ... Jah'-vah.
 Jaxartes, ... Jāx-ar'-tēēz.
 Jedburgh, ... Jēd'-burg.
 Jelalabad, ... Je-lah-lah-bahd'.
 Jersey, ... Jēr'-ze.
 Jerusalem, ... Jer-oo'-sa-lem.
 Joannes, ... Jo-an'-nēts.
 Joliette, ... Jōl-le-ēf'.
 Jordan, ... Jōr'-dan.
 Juan de Fuca, ... Jū'-ahn-de-foo'-kah.
 Juan Fernandez, Jū'-ahn-fer-nan'-dēz.
 Judea, ... Ju-dēē'-ah.
 Juggernaut, ... Jug'-gur-naw't.
 Jungfrau, ... Yoong'-frou.
 Jura, ... Joo'-rah.
 Jutland, ... Jūt'-land.

Kaffraria, ... Kāf'-rā-re-ah.
 Kaifong, ... Ki-fong'.

Kairwan, ... Kīr-wahn'.
 Kaisarieh, ... Kī-zar-ēē'-eh.
 Kakema, ... Kah-kū'-mah.
 Kalahari, ... Kah-lah-bah'-re.
 Kalmar, ... Kal'-mar.
 Kamchatka, ... Kāh-moh'-ras'-kah.
 Kamouraska, ... Kah-moo-ras'-kah.
 Kanawa, ... Ka-naw'-wa.
 Kangaroo, ... Kang-ga-roo'.
 Kara, ... Kah'-rah.
 Karakorum, ... Kah-rah-kō'-rum.
 Kassandra, ... Kas-san'-drah.
 Katmandoo, ... Kat-man-doo'.
 Katrine, ... Kā'-trīn (Kāt'-).
 Keith, ... Kēeth.
 Kelat, ... Ke-lat'.
 Kenek, ... Kēn'-eh.
 Kenia, ... Kē'-ne-ah.
 Kenmare, ... Kēn-mair'.
 Kennebec, ... Kēn-ne-bēk'.
 Kertch, ... Kārch.
 Keshin, ... Kēsh-ēēn'.
 Kesho, ... Kēsh'-o.
 Keswick, ... Kes'-wik (Kēz'-ik).
 Khartum, ... Kār-toom'.
 Khingan, ... Kīn-gah'n'.
 Khiva, ... Kōē'-vab.
 Khokan, ... Ko-kan'.
 Khyber, ... Kī'-ber.
 Kiachta, ... Ke-ak'-tah.
 Kidderminster, ... Kīd-der-mīn'-ster.
 Kiel, ... Keel.
 Kiev, ... Kē-ēv'.
 Kildare, ... Kīl-dair'.
 Kilimandjaro, ... Kīl-e-man-jah-ro'.
 Killenny, ... Kīl-ken'-ne.
 Killala, ... Kīl-la-lah'.
 Killarney, ... Kīl-lar'-ne.
 Kilmarnock, ... Kīl-mar'-nōk.
 Kilrush, ... Kīl-rush'.
 Kilsyth, ... Kīl-sīth'.
 Kincardine, ... Kīn-kar'-deen.
 King-ki-tao, ... King-ke-tah'-o.
 King-te-chiang, ... King-tā-che-ang'.
 Kinross, ... Kīn-ross'.
 Kinsale, ... Kīn-sāle'.
 Kiolen, ... Kyō'-len.
 Kirghiz, ... Kur-gēēz'.
 Kirkcaldy, ... Kīr-kaw'l'-de.
 Kirkcubright, ... Ker-koo'-brēē.
 Kirkintilloch, ... Kīrk-in-tīl'-lok.
 Kiusiu, ... Ke-ōō'-se-ōō'.
 Kizil Irmak, ... Kīz-il-ir'-mak.
 Klausenburg, ... Klow'-zen-borg.
 Kodiak, ... Kō'-de-āk.
 Königsburg, ... Ken'-igs-burg.
 Kordofan, ... Kōr-do-fan'.
 Kosciusko, ... Kōs-se-us'-ko.
 Kremnitz, ... Krēm-nitz.
 Krishna, ... Krīsh'-nah.
 Kuenlun, ... Kwen-loon'.
 Kuka, ... Koo'-kah.
 Kur, ... Koor.
 Kurdistan, ... Koor-dis-tan'.
 Kurile, ... Koo'-ril.

Metz, ... Mēts.
Mense, ... Mūze.
Mexico, ... Mēx'-e-kō.
Miac, ... Mē-ah'-ko.
Michigan, ... Mīsh'-e-gan.
Michipicoten, ... Mīch-īp-pe-kō'-ten.
Milan, ... Mīl'-an (Mī-lan').
Miltzin, ... Mīlt-zēn'.
Milwaukie, ... Mīl-waw'-ke.
Mindanao, ... Mīn-dah-nah'-o.
Mindoro, ... Mīn-dō'-ro.
Minho, ... Mīn'-yō (Mīn'-hō).
Minnesota, ... Mīn-ne-sō'-ta.
Minorca, ... Mīn-ōr'-ka.
Miquelon, ... Mīk-e-lon'.
Miramichi, ... Mīr-a-mī-shēē'.
Missisquoi, ... Mīs-sts-kwah.
Mississippi, ... Mīs-sīs-sīp'-pe.
Missouri, ... Mīs-soo'-re.
Mobile, ... Mō-bēēl'.
Mocha, ... Mō-ka.
Modena, ... Mō-de-nah (Mōd').
Mogador, ... Mō-g-a-lōre'.
Mohawk, ... Mō-hawk.
Moldavia, ... Mōl-dā'-ve-a.
Moluccas, ... Mō-luk'-kaz.
Monaghan, ... Mōn'-a-han.
Monmouth, ... Mōn-mouth.
Monongahela, ... Mō-nōn-ga-hē'-la.
Mons, ... Mōngs.
Montague, ... Mōn-ta-gū.
Montana, ... Mōn-tah'-nah.
Montauk, ... Mōn-taw'-k.
Montcalm, ... Mōnt Kah'n'.
Monte Video, ... Mōn-te-vid-e-o.
Montgomery, ... Mōnt-gūm'-e-re.
Montmorency, ... Mōnt-mō-rēn'-se.
Montpellier, ... Mōnt-pel'-yer.
Montreal, ... Mōn-tre-ah'.
Mooltan, ... Mool-tahn'.
Moorshedabad, ... Moor-shed-a-bad'.
Moravia, ... Mō-rā'-ve-a.
Moray, ... Mōr'-re.
Morocco, ... Mō-rōk'-ko.
Moscow, ... Mōs'-kō.
Mosul, ... Mō-sul.
Moukden, ... Mōok-den'.
Moulins, ... Mōo-lang'.
Mourne, ... Mōrne.
Mourzouk, ... Mōor-zook'.
Mozambique, ... Mō-zām-bēek'.
Mulrea, ... Mūl-rā'.
Mullingar, ... Mūl-līn-gar'.
Munich, ... Mū-nīk.
Murrumbidgee, ... Mūr-rum-bīd-jee.
Muscat, ... Mūs-kat'.
Mysore, ... Mī-sōre'.
Naas, ... Nā'-as (Nāce).
Nablous, ... Nah-bloos'.
Nagasaki, ... Nah'-ga-sah-ke.
Nagpore, ... Nag-pōre'.
Nairn, ... Nārn.
Namaqua, ... Nah-nah'-kwah.
Namur, ... Nā-mur.

Nankin, ... Nan-kēen'.
Nanling, ... Nān-līng'.
Nantes, ... Nants.
Nantucket, ... Nān-tuk'-et.
Napanea, ... Nā-pa-neē'.
Napo, ... Nah'-pō.
Nassau, ... Nas'-saw.
Natal, ... Nah-tal'.
Natchez, ... Natch'-ez.
Nauplia, ... Naw'-ple-a.
Navan, ... Nav'-an.
Navarino, ... Nah-vah-i-ēē'-no.
Nazareth, ... Naz'-a-reth.
Naze, ... Nah'-ze.
Neagh, ... Nā.
Nebraska, ... Ne-bras'-ka.
Nedjed, ... Ned'-jed.
Nejed, ... Ned'-jed.
Negropont, ... Neg-rō-pont.
Nenagh, ... Nā'-na.
Nepaul, ... Ne-paw'.
Nephin Beg, ... Nēf-in-beg'.
Nerbuddah, ... Nur-bud'-da.
Neufchatel, ... Nūf-shah-tel'.
Neva, ... Nē'-va (Nā-vah').
Nevada, ... Nā-vah'-dah.
Nevada-de-Sorata, ... Nā-vah'-dah-dā-so-rah'-tah.
Newfoundland, ... Nū-fund-land'.
New Orleans, ... Nū-ōr'-le-anz.
New Zealand, ... Nū-zee'-land.
Ngami, ... N'gah'-mee.
Niagara, ... Nī-ag'-a-rah.
Nicaragua, ... Nīk-ah-rah'-gwah.
Nice, ... Nēce.
Nicobar, ... Nīk-o-bar' (Nīk').
Nicolet, ... Nīk-o-lā'.
Nicolini, ... Nē-kōp'-o-le.
Nicosia, ... Nē-ko-zee'-ah.
Niemen, ... Nēē'-men.
Niger, ... Nī-jer.
Nijni-Novgorod, ... Nīzh'-ne-nōv-go-rōl'.
Nikolaiev, ... Nē-ko-lī-ev'.
Nile, ... Nīle.
Nimes, ... Nēēms.
Ning-po, ... Nīng-pō'.
Niphon, ... Nīf-on (Nīf-ōn').
Nipissing, ... Nīp'-is-sīng.
Nordkyn, ... Nōrt'-kin.
Norway, ... Nōr'-wā.
Norwich, ... Nōr'-ridj.
Nossi Be, ... Nōs'-se-lā.
Notre Dame, ... Nōt'-dahm'.
Nottawassaga, ... Nōt-ta-wa-saw'-ga.
Nova Zembla, ... Nō-vah-zem'-blā.
Nubia, ... Nū'-be-a.
Nun, ... Noon.
Nuremburg, ... Nū-rem-burg.
Nyanza, ... Nē-ahn'-za.
Nyassi, ... Nē-as'-se.
Oahu, ... Wah'-hoo.
Oakham, ... Ōke-ham.
Obi, ... Ō'-bee.
Oceania, ... Ō-shē-ah'-ne-a.
Oder, ... Ō-dēr.

Odessa, ... Ō-des'-sa.
Oesel, ... Ū'-sel.
Ohio, ... Ō-hī-ō.
Okeechobee, ... Ō-ke-chō'-bee.
Okhotsk, ... Ō-kōts'-k'.
Oland, ... Ō'-land.
Oldenburg, ... Ōle'-den-burg.
Oleron, ... Ō-lā-rōng'.
Olympus, ... Ō-līm'-pūs.
Omagh, ... Ō-mah'.
Omaha, ... Ō'-ma-haw.
Onan, ... Ō-man'.
Omoa, ... Ō-mō'-ah.
Onega, ... Ō-nē'-gah.
Ontario, ... Ōn-tā'-rē-ō.
Ooroomiah, ... Ō-o-roo-mēē'-ah.
Oporto, ... Ō-pōrē'-tō.
Oran, ... Ō-ran'.
Oregon, ... Ōr'-ē-gon.
Orfah, ... Ōr'-fah.
Orillia, ... Ō-rīl'-lē-a.
Orinoco, ... Ō-rē-nō'-kō.
Orizaba, ... Ōr-e-zah'-bah.
Orkneys, ... Ōrk'-nēēs.
Orleans, ... Ōr'-le-anz.
Ormuz, ... Ōr'-muz.
Orontes, ... Ō-rōn'-teez.
Ortegal, ... Ōr'-te-gal.
Oruba, ... Ō-roo'-bah.
Oshawa, ... Ō-shaw'-wah.
Ossa, ... Ōs'-sa.
Ostend, ... Ōs-tend'.
Otranto, ... Ō-trān'-tō.
Ottawa, ... Ōt'-tah-wah.
Onse, ... Ōoz.
Owhyhee, ... Ō-why'-hēē.
Oxford, ... Ōx'-ford.
Oxas, ... Ōx'-us.
Pacific, ... Pā-sīf'-ik.
Padua, ... Pād'-u-a.
Paisley, ... Pāze'-le.
Palawan, ... Pah-lah-wahn'.
Palermo, ... Pah-le'-mō.
Palestine, ... Pāl-es-tīne.
Palk, ... Pawk.
Palma, ... Pah'-mah.
Palmyra, ... Pāl-mī'-ra.
Palos, ... Pah'-los.
Pamir, ... Pah-mēer'.
Pamlico, ... Pām'-lē-kō.
Panama, ... Pan-a-mah'.
Panjina, ... Pan-zheeng'.
Papua, ... Pāp'-oo-a.
Para, ... Pah-rah'.
Paraguay, ... Par'-ah-gwā.
Paramaribo, ... { Par-a-mar-i-bō (Pa-ra-ma-rē'-bō).
Parana, ... Par-ah-nah'.
Paria, ... Pah'-re-ah.
Parile, ... Pah-rēē'-ma.
Paris, ... Par'-is (Pah-rē').
Parma, ... Par'-ma.
Paropamisan, ... Pah-ro-pah-ne-sahn'.
Passamaquoddy, ... Pas-sam-a-quod'-dy.

Passaro,	Pās-sah'-rō.	Prussia,	Prūsh'-ya (Proosh'-a).	Russia,	Rush'-e-ah (Roosh'-e-ah).
Passau,	Pās'-sow.	Puerta Principe,	Poo-ur'-tō-prin'-sē-pā.	Rustchuk,	Roos-chook'.
Patagonia,	Pāt-a-gō'-ne-ah.	Punjaub,	Pūn-jahb'.	Rutherglen,	Roother-glēn' (Rūg'-lēn).
Patras,	Pah-trahs'.	Puntas Arenas,	Poon'-tas-ab-rā'-nas.		
Pavia,	Pah-vē'-ah.	Purus,	Poo'-rooce.	Saale,	Sah'-lā.
Pechelee,	Pā-che-lēē'.	Putumayo,	Poo-too-mī'-o.	Sacramento,	Sah-krah-mēn'-to.
Pedee,	Pē-dēē'.	Pyrenees,	Pir'-e-nēēz.	Safed,	Sah-fēd'.
Peebles,	Pēē'-blz.			Saghalien,	Sah-gah-lēē'-en.
Pegu,	Pe-goo'.	Quathlamba,	Kwat-lam'-bah.	Saguenay,	Sag-e-nā'.
Peipus,	Pī'-pus (Pā'-e-poo).	Quebec,	Kwē-bēk'.	Sahara,	Sah-hah'-rah.
Pekin,	Pēē'-kin (Pe-kin').	Quesaltenango,	Kā-sal-tā-nan'-gō.	Saida,	Sī'-dah.
Peling,	Pā-ling'.	Quito,	Kēē'-to.	Saigon,	Sī'-gon'.
Pembina,	Pēm'-be-nah.			Saima,	Sī'-mah.
Pembroke,	Pēm'-brook.	Rabatt,	Rah-bah't'.	St. Alban's,	Sāint-aw'l-bans.
Penang,	Pe-nang'.	Racine,	Rah-sēēn'.	St. Anselme,	Sāint-ang-sēu'.
Pennsylvania,	Pēn-sil'-vā'-nē-ah.	Rajpootana,	Rahj-poo-tah'-nah.	St. Bernard,	Sēnt-ber-nard'.
Penobscot,	Pē-nōb'-skot.	Raleigh,	Raw'-le.	St. Christophe,	Sang-kreēs-tōf'.
Pensacola,	Pēn-sah-kō'-lah.	Rampoor,	Ram-poor'.	St. Croix,	Sang-kraww' (Saint-kroi').
Penzance,	Pēn-zance'.	Rangoon,	Rang-goon'.	St. Denis,	Sāng-de-nee'.
Pernambuco,	Pēr-nām-boo'-kō.	Rappahannock,	Rāp-pa-hān'-nok.	St. Etienne,	Sāint-ā-te-en'.
Perrot,	Pēr-rōt'.	Raratonga,	Rah-rah-tong'-gah.	St. Eustatia,	Sāint-ū-stā'-she-ah.
Persepolis,	Pēr-sēp'-ō-lis.	Ras al Haad,	Rahs-ahl-bahd'.	St. François,	Sāng-frang-swaw'.
Peru,	Pē-roo'.	Rathkeale,	Rath-kāle'.	St. Gothard,	Sāint-gōt'-hard.
Perugia,	Pā-roo'-jah.	Rathlin,	Rath-lin'.	St. Helena,	Sāint-he-lē'-na.
Peshawar,	Pesh-ah'-wur.	Ratisbon,	Rā'-is-bon.	St. Helier,	Sāint-hēl'-e-er.
Pesth,	Pēst.	Ravenna,	Rah-ven'-nah.	St. Hyacinth,	Sāng-te-ah-sangt'.
Petchora,	Pēch'-o-rah.	Re,	Rā.	St. Iréné,	Sāint-ē-rā-nā'.
Peterborough,	Pē'-ter-bur-rah.	Reading,	Rēd'-ding.	St. Lawrence,	Sāint-law'-rence.
Peticodiac,	Pē-tē-cōd-yak'.	Realejo,	Re-ah-lā'-ho.	St. Liboire,	Sāint-le-bwar'.
Petropaulovski,	Pā'-tro-pow-lōv'-ske.	Reggio,	Rēd'-jo.	St. Louis,	Sāint-lōo'-ls.
Philadelphia,	Fil-a-del'-fē-ah.	Reikiavik,	Rī'-kl-a-vik.	St. Lucas,	Sāint-lōo'-kas.
Philippine,	Fil'-ip-pin.	Renfrew,	Rēn'-frow.	St. Malo,	Sēnt-mah'-lo.
Piacenza,	Pe-ah-chēn'-zah.	Restigouche,	Rēs-te-goosh'.	St. Marie,	Sāint-ma-ree'.
Pichinca,	Pē-chin'-kah.	Reunion,	Rā-ū-ne-ong'.	St. Maurice,	Sang-mo-rēēēē'.
Pistou,	Pik'-too (-too').	Revel,	Rēv'-el.	St. Michel,	Sāint-mī'-kel.
Piedmont,	Pēēd'-mont.	Rheims,	Rēms.	St. Ours,	Sāint-oor'.
Pietermaritzburg,	Pēē'-ter-mahr'-its-burg.	Rhine,	Rīne.	St. Petersburg,	Sāint-pēē'-ters-burg.
Pilcomayo,	Pil-kō-mah'-yō (-mī-o).	Rhodes,	Rōdz.	St. Pierre,	Sāint-pe-ir'.
Pindus,	Pīn'-dus.	Rhone,	Rōne.	St. Roque,	Sāint-rōke'.
Pisa,	Pēē'-zah.	Richelieu,	Rēēsh-e-loo'.	St. Scholastique,	Sāng-sko-lahs-tēēk'.
Pitcairn,	Pit-cairn'.	Richibucto,	Rish-e-buk'-tō.	Ste. Therese,	Sāint-tā-raiz'.
Plymouth,	Plim'-ūth.	Rideau,	Re-dō'.	St. Vincent,	Sāint-vin'-sent.
Po,	Pō.	Riesengebirge,	Ree-zen-ga-beer'-gā.	Salado,	Sah-lah'-do.
Poland,	Pō'-land.	Riga,	Rēē'-gah (Rī'-).	Salamanca,	Sah-lah-mahng'-kah.
Polynesia,	Pōl'-e-nēē'-she-a.	Rimouski,	Rīēē-moos'-ke.	Salee,	Sah'-le.
Pomona,	Po-mō'-na.	Rio Grande,	Rēē'-o-Grāhn'-de.	Salisbury,	Sawls'-ber-re.
Tompeii,	Pōm-pā'-yee.	Rio Janeiro,	Rēē'-o-ja-nā'-ro.	Saloniki,	Sah-lo-nee'-kee.
	Pōm-pe'-e-i.	Rio Negro,	Rēē'-o-nā'-gro.	Salop,	Sāf'-op (Sā'-lōp).
Pondicherry,	Pōn-de-shē'-re.	Riviere du loup,	Re-ve-air'-doo-loo'.	Salwen,	Sahl-wēn'.
Ponta Delgada,	Pōn'-tah-del-gah'-dah.	Roanoke,	Ro-an-ōke'.	Salzburg,	Salts'-burg.
Pool,	Pōol.	Roca,	Rō'-kah.	Samarang,	Sām-a-rang'.
Popocatepetl,	Pōp-o-cah-tā-petl'.	Rochdale,	Rōch'-dale.	Samoa,	Sah-mō'-a.
Portage du Fort,	Pōr-tāzh'-du-for.	Rochefort,	Rōsh'-fort.	Samothrake,	Sah-mo-thrah'-ke.
Portneuf,	Pōre-noof'.	Rochester,	Rōch'-es-ter.	Samothraki,	Sah-mo-thrah'-ke.
Porto Rico,	Pōr'-to-rēē'-kō.	Rodosto,	Ro-dōs'-to.	Sana,	Sah-nah'.
Portsmouth,	Pōrts'-mouth.	Romanov,	Ro-man-zōv'.	San Antonio,	Sāhn-ahn-tō'-ne-o.
Portugal,	Pōrt'-ū-gal.	Rome,	Rōme.	San Blas,	Sāhn-blāhs'.
Posen,	Pō'-sen.	Rosetta,	Ro-sēt'-tah.	San Domingo,	Sāhn-do-ming'-go.
Potomac,	Pō-tō'-mak.	Rossignol,	Roos-seen-yōl'.	San Francisco,	Sāhn-fran-sis'-ko.
Potosi,	Pō-tō-sē' (Pō-tō'-se).	Rothsay,	Rōth'-sā.	San Joaquin,	Sāhn-ho-a-kēēn'.
Potsdam,	Pōts'-dam.	Rotterdam,	Rōt'-ter-dam.	San José,	Sāhn-hō-sā'.
Prague,	Pīāg.	Rouen,	Rōo'-ēn.	San Juan,	Sāhn-hoo-ahn'.
Pragel,	Pīā'-gel.	Rouville,	Rōo-vēēl'.	San Luis,	Sāhn-lōo'-ls.
Prestonpana,	Pres-ton-panz'.	Roxburg,	Rox'-burg.	San Marino,	Sāhn-mah-rēē'-no.
Prome,	Pīrōme.	Rügen,	Rū'-gen.	San Salvador,	Sāhn-sal-va-dōrē'.

San Sebastian, ...	Sahn-sā-bahs-te-ahn'.	Shippegan, ...	Ship-pe-gān'.	Stranraer, ...	Stran-rawr'.
Sans souci, ...	Sang-soo-sē'.	Shoa, ...	Shō-ah.	Strasbourg, ...	Stras'-burg (-boor').
Santa Fe, ...	Sahn'-tah-fā.	Shrewsbury, ...	Shrūz'-bēr-e.	Stromboli, ...	Strōm'-bo-lee.
Santa Maura, ...	Sahn-tah-mow'-rah.	Shropshire, ...	Shrōp'-sheer.	Stromness, ...	Strōm'-ness'.
Santee, ...	San-tee'.	Shubenacadie, ...	Shoo-bēn-āk'-a-de.	Stuttgart, ...	Stut'-gart.
Santiago-de-Com- postella, ...	Sahn-te-ah'-go-dā-com-pos- tā'-lah.	Shumla, ...	Shoom'-lah.	Suez, ...	Soo'-ez.
Saone, ...	Sōne.	Siam, ...	Sī-ām'.	Suffolk, ...	Sūf'-fok.
Saragossa, ...	Sah-rah-gōs'-sah.	Siberia, ...	Sī-bēē'-re-ah.	Suir, ...	Shoor.
Sarawak, ...	Sah-rah-wak'.	Sicily, ...	Sis'-e-le.	Sumatra, ...	Soo-mah'-tra.
Sardinia, ...	Sar-din'-e-a.	Sierra-del-Cobre, ...	Se-er'-rah-del-cōb'f'.	Sumbawa, ...	Soom-baw'-wah.
Saros, ...	Sah'-roa.	Sierra-Gredos, ...	Se-er'-rah-grā'-dōs.	Sunda, ...	Sūn'-da.
Saskatchewan, ...	Sās-kāch'-e-wan.	Sierra Leone, ...	Se-er'-rah-le-ō'-ne.	Surat, ...	Soo-rat'.
Sassari, ...	Sah'-sah-re.	Sierra Madre, ...	Se-er'-rah-mah'-drā.	Susquehanna, ...	Sūs-kwe-hān'-nah.
Saugeen, ...	So-geen'.	Sierra Morena, ...	Se-er'-rah-mo-rā'-nah.	Sutlej, ...	Sūt'-lej.
Sault, ...	Sō.	Sierra Nevada, ...	Se-er'-rah-nā-vah'-dah.	Swansea, ...	Swōn'-se.
Savannah, ...	Sah-van'-nah.	Sierra Toledo, ...	Se-er'-rah-to-lā'-do.	Sweden, ...	Swē'-dēn.
Save, ...	Sahv (Sāve).	Sikotf, ...	See-kōkf'.	Switzerland, ...	Swīts'-er-land.
Saxe Coburg, ...	Sāx-kō'-burg.	Silesia, ...	Sī-lee'-she-a.	Syra, ...	See'-rah.
Saxony, ...	Sāx'-o-ne.	Silistria, ...	Sī-līs'-tre-ah.	Syracuse, ...	Sīr'-ah-kūse.
Scandinavia, ...	Skān-de-nā'-ve-a.	Sinai, ...	Sī-nā (Sī-nā-f).		
Scarborough, ...	Skar'-bur-ro.	Singapore, ...	Sing-gā-pōrē'.	Tabriz, ...	Tah-brēēz'.
Scatari, ...	Skāt-a-ree'.	Sinope, ...	Sīn'-o-pe.	Tadoussac, ...	Tād-oo-sak'.
Scaw Fell, ...	Skaw-fēl'.	Siont, ...	Se-oot'.	Taganrog, ...	Tāg'-ahn-rōg.
Schelde, ...	Skēl'-dā.	Sir-daria, ...	Sir-dah'-re-ah.	Tagus, ...	Tā'-gus.
Schemnitz, ...	Shēm'-nitz.	Sir-i-kol, ...	Sir-e-kōl'.	Tahiti, ...	Tah-hēē'-te.
Schiedam, ...	Skee-dām'.	Sistova, ...	Sis-tō'-vah.	Tahlequah, ...	Tah'-lē-kwah.
Schleswig, ...	Schlēs'-vig.	Sitka, ...	Sit'-kah.	Tain, ...	Tāne.
Sleswik, ...	Schlēs'-vig.	Skager Rack, ...	Skāg'-er-rak.	Tallahassee, ...	Tal-lah-has'-se.
Schreckhorn, ...	Shrēk'-horn.	Skibbereen, ...	Skīb-be-rēēn'.	Tampico, ...	Tam-pēē'-ko.
Schwartzwald, ...	Shwarts'-wahld.	Skye, ...	Skl.	Tananarivo, ...	Tah-nah-nah-re-voo'.
Schweitz, ...	Shwitz.	Slaney, ...	Slān'-e.	Tanganyika, ...	Tāh'-gahn-yē'-ka.
Scilly, ...	Sil'-le.	Sleat, ...	Slēet.	Tangier, ...	Tān-jēēr'.
Scotland, ...	Skōt'-land.	Sligo, ...	Sil'-go.	Tanjore, ...	Tān-jōrē'.
Scutari, ...	Skōt'-tah-re.	Smyrna, ...	Smir'-nah.	Tanna, ...	Tan'-na.
Sebastopol, ...	Se-bās'-to-pol (-to').	Socotra, ...	Sōk'-o-trah (-kō').	Tapajos, ...	Tāh-pāh'-zhōse.
Seeland, ...	Zēē'-land.	Sofala, ...	So-fah'-lah.	Taranto, ...	Tāh'-rah-n-to.
Segovia, ...	Se-gō'-ve-ah.	Sokota, ...	So-kō'-tah.	Tarifa, ...	Tāh-ree'-fah.
Segura, ...	Sā-goo'-rah.	Solent, ...	Sō'-lent.	Tartary, ...	Tar'-ta-re.
Seine, ...	Sāne.	Solferino, ...	Sōl-fā-re'-no.	Tashkend, ...	Tash-kend'.
Selkirk, ...	Sēl'-kirk.	Solway, ...	Sōl'-wā.	Tasmania, ...	Tās-mā'-ne-a.
Senegal, ...	Sēn-e-gawf'.	Somali, ...	So-maw'-le.	Tatamagouche, ...	Tāt'-mah-goosh.
Senegambia, ...	Sēn-e-gām'-be-ah.	Somerset, ...	Sām'-mer-set.	Taunton, ...	Tān'-ton.
Sennaar, ...	Sēn-nahr'.	Soodan, ...	Soo-dahn'.	Taurus, ...	Tau'-rus.
Senne, ...	Sēn'-neh.	Soongaria, ...	Soong-gah'-re-ah.	Tchad, ...	Chahd.
Serampore, ...	Ser-am-pōrē'.	Sorel, ...	Sōr-el'.	Teheran, ...	Te-her-ahn'.
Seres, ...	Sēr-es.	Soulanges, ...	Soo-lanzh'.	Tehuantepec, ...	Tā-hwan-tā-pēk'.
Serinagar, ...	Ser-e-nah'-gur (-gur').	Sourabaya, ...	Soo-rah-lā'-a.	Temiscaming, ...	Te-mis'-kam-ing.
Servia, ...	Sēr'-ve-a.	Spartivento, ...	Spar-te-vēn'-to.	Temiscouata, ...	Tem-is-koo-ah'-tah.
Setubal, ...	Sā-too'-bal.	Spey, ...	Spā.	Tempe, ...	Tēm'-pā.
Severn, ...	Sēv'-ern.	Spires, ...	Spīre.	Teneriffe, ...	Tēn-er-iff'.
Severo, ...	Sā-vā'-ro.	Spitzbergen, ...	Spits-burg'-en.	Tengrinor, ...	Tēn'-gre-nor.
Seville, ...	Sēv'-il (-ill').	Sporades, ...	Spōr'-a-deez.	Tennessee, ...	Tēn-nēs-sēē'.
Sevres, ...	Sēv'r.	Spree, ...	Spā.	Terra del Fuego, ...	Ter'-rah-del-fwā'-go.
Seychelles, ...	Sā-shēēl'.	Stafford, ...	Stāf'-ford.	Terrebonne, ...	Tair-bon'.
Shamo, ...	Shah'-mo.	Stalimene, ...	Stal-e-mē'-ne.	Terre Haute, ...	Tair-hôte'.
Shanghai, ...	Shang-hī'.	Stalimani, ...	Stal-e-mē'-ne.	Tetuan, ...	Tet'-u-an'.
Shannon, ...	Shān'-non.	Stanovoi, ...	Stah-na-voi'.	Thames, ...	Tēmz.
Shat-el-Arab, ...	Shat-el-ah'-rahb.	Stelvio, ...	Stēl'-ve-o.	Thanet, ...	Thān'-et.
Shediac, ...	Shēd-e-ak'.	Stettin, ...	Stēt-teen.	Thaso, ...	Thāh'-so.
Sheerness, ...	Shēēr'-ness'.	Stettiner Haff, ...	Stēt-tēē'-ner-haff.	Thebes, ...	Thēēbs.
Sheffield, ...	Shēf'-field.	Stockholm, ...	Stōk'-holm.	Theiss, ...	Tice.
Shenandoah, ...	She-nān-dō'-ah.	Stour, ...	Stoor.	Thermopylae, ...	Ther-mōp'-e-le.
Shendy, ...	Shēn'-de.	Strabane, ...	Stra-bān'.	Thiakli, ...	Thē-ah'-ke.
Shepody, ...	Shēp'-o-de.	Stralsund, ...	Strahl'-soont.	Thian Shan, ...	Te-ahn'-shahn.
		Strangford, ...	Srang'-ford.	Thibet, ...	Tīb'-et (-et').

Thorn, Torn.	Tuscaloosa, Tüs-kah-loo'-sah.	Washita, Wösh-ë-taw'.
Thorold, Thor'-old.	Tuscany, Tüs'-ka-ne.	Waterloo, Wa-ter-loo'.
Thuringian, Thu-rin'-je-an.	Tyne, Tine.	Wellesley, Wëls'-le.
Thurles, Thür-lis.	Tyrone, Ti-röne'.	Wener, Wë'-ner (Vä'-ner).
Tiber, Tî-bur.		Weser, Wë'-ser (Vä'-ser).
Ticino, Te-chëé'-no (-sëé'-).	Uist, Wist.	Westmoreland, West'-möre-land.
Tiflis, Tif'-lis.	Ulleswater, Uiz'-wa-ter.	Wetter, Wët'-ter (Vët'-ter).
Tigré, Tëé'-grä.	Ulm, Ülm (Oolm)	Weymouth, Wä'-müth.
Tigris, Ti'-gris.	Ulster, Ü'-ster.	Whydah, Whîd'-da.
Timbuctoo, Tim-bük'-too.	Unst, Ünst.	Whykomagh, Why-kok'-o-mah.
Timor, Te-möre' (Tî-mor).	Upsala, Üp-sah' iah.	Widden, Wid'-dën.
Timor Laut, Te-möre'-laut.	Ural, Ü'-ral (Oo-rah'l).	Wiesbaden, Wëss'-bah-den.
Tipperary, Tip-er-ä'-re.	Uruguay, Oo-roo-gwä' (-gwä').	Wigan, Wig'-an.
Titicaca, Tee-tee-kah'-kah.	Ushant, Üsh'-ant.	Wight, Witë.
Tobago, To-bä'-go.	Utah, Ü'-tal.	Winchester, Win'-chës-ter.
Tobique, To-bëék'.	Utica, Ü'-te-ka.	Windermere, Win'-der-mëre.
Tobol, To-böl'.	Utrecht, Ü'-trëkt.	Windsor, Win'-zär.
Tobolsk, To-bolsk'.		Winnipeg, Win'-ni-pég.
Tocantins, To-kan-tëéns'.	Valdai, Val'-dä (-dî).	Winnipiseogee, {Win-e-pe-saw'-ke. Win-e-plis-e-ö'-ge.
Tokay, To-kä'.	Valencia, {Vah-lën'-she-a.	Wisconsin, Wis-kön'-sîn.
Toledo, To-lë'-do.	Valentia, {	Wittenburg, Wit'-tën-burg.
Tongataboo, Tong-ah-tah'-boo.	Valenciennes, Vah-long-se-ën'.	Wollaston, Wöl'-las-ton.
Tonquin, Tën-këén'.	Valladolid, Val-la-do-lid' (-lëéd').	Wolverhampton, Wol-ver-hamp'-ton.
Töpeka, To-pë'-kah.	Valparaiso, Val-pah-rî'-so.	Woolwich, Wool'-itch.
Toplitz, Tep'-litz.	Vancouver, Van-koo-ver.	Worcester, Woos'-ter.
Torbay, Tor-bä' (Tor').	Van Diemen's, Vän-dëé'-menz.	Wrexham, Rëx'-äm.
Tormentine, Tor'-men-tîue.	Varna, Var'-nah.	Wurtemberg, Wur'-tem-burg.
Tornea, Tor'-ne-ah.	Vaudreuil, Vo-drool'.	Wye, WI.
Torquay, Tor-kë' (Tor').	Venezuela, Vën-e-zwë'-lah.	
Torres, Tor'-res.	Venice, Vën'-iss.	Xeres, Hã-rës'.
Tortola, Tor'-to-lah (-tö').	Vera Cruz, Ve-rah-crooz'.	Xingu, Shin-goo'.
Tortugas, Tor-too'-gas.	Verde, Verd.	Xucar (Jucar), Hoo'-kar.
Toulon, Too-löng'.	Vermejo, Ver-mä'-ho.	
Toulouse, Too-looz'.	Vermont, Ver-mont'.	Yablonoï, Yah-blo-noï'.
Tourment, Toor-mont'.	Verona, Ve-rö'-nah.	Yamaska, Yah-mas'-kah.
Tournay, Toor-nä'.	Versailles, Ver-sälz'.	Yanaon, Yah-nah-ong'.
Tours, Toor (Toorz).	Verte, Värt.	Yang-tse-kiang, Yang-tse-ke-ang'.
Tracadie, Träk'-a-de.	Verviers, Ver-ve-ä'.	Yapura (Japura), Yah-poo'-rah.
Trafalgar, Traf-al-gar' (-fal').	Vesuvius, Ve-sü'-ve-us.	Yarkand, Yar-kand'.
Tralee, Trah-lee'.	Vicenza, Ve-sën'-za.	Yarra-Yarra, Yar'-rah-yar'-rah.
Transvaal, Trans-vahl'.	Vienna, Vë-en'-nah.	Yavay (Jabary), Yah-vah-rëé'.
Trapani, Trah'-pah-ne.	Vilna, Vîl'-nah.	Yeddo (Jeddo), Yed'-do.
Travancore, Träv-an-köre'.	Vindhya, Vînd'-yah.	Yemen, Yëm'-en.
Trebisond, Treb'-e-zond (-zond').	Virginia, Vir-gî'n'-e-ah.	Yenisei, Yën-e-sä'-e.
Treves, Trëévs.	Viso (Monte), Mon'-tä-vëé'-zo.	Yesso, Yës'-so.
Trichinopoly, Tritch-in-öp'-o-le.	Vistula, Vis'-tu-la.	Yoruba, Yo-roo'-bah.
Trieste, Tre-ëst'.	Volga, Völ'-gah.	Yosemite, Yo-sëm'-e-te.
Trincomalee, Tring-ko-ma-lëé'.	Volturno, Völ-toor'-no (-tur').	Youghall, Yawl (Yö'-awl).
Tripoli, Trip'-o-le.	Vosges, Vözh.	Yucatan, Yoo-kah-tan'.
Tripolitza, Tre-po-lit'-za.		Yukon, Yü'-kon.
Trois Pistoles, Trwaw-pis-töle'.	Waag, Wahg.	Zacatecas, Zac-a-të'-kas (-tã').
Trombetas, Tröm-bä'-tas.	Wadai, Wah'-dî.	Zaire, Zah-ëé'.
Trowbridge, Trö'-bridge.	Wady Mousa, Wah'-de-moo'-sah.	Zambeze, Zäm-beëz' (-bî'-zä).
Truxillo, Troo-büél'-yo.	Wahsatch, Wah-satch'.	Zanguebar, Zän-gwe-bar' (-gä-).
Tuam, Tu'-am.	Waldeck, Wöl'-dek.	Zante, Zan'-te.
Tula, Too'-lah.	Wallachia, Wöl-lä'-ke-a.	Zanzibar, Zän-ze-bar'.
Tullamore, Täl-la-möre'.	Walney, Wäl'-ne.	Zealand, Zëé'-land.
Tunis, Too'-nis.	Walsall, Wäl'-sal.	Zurich, Zoo'-rik.
Turin, Too'-rin.	Warsaw, War'-saw.	Zuyder Zee, Zî'-der-zee.
Turkistan, Toor-kes-tan'.	Wartha, War'-tha.	
Turkey, Tur'-ke.	Warwick, War'-rik.	

Wōsh-ē-taw'.
Wa-ter-loo'.
Wēls'-le.
Wē-ner (Vā'-ner).
Wē-ser (Vā'-ser).
West'-mōre-land.
Wēt'-ter (Vēt'-ter).
Wā'-mūth.
Whīd'-da.
Why-kok'-o-mah.
Wid'-dēn.
Wēēs'-bah-den.
Wīg'-an.
Wite.
Win'-chēs-ter.
Win'-der-mēre.
Win'-zūr.
Win'-ni-pēg.
{ Win-e-pe-saw'-ke.
{ Win-e-pls-e-ō'-ge.
Wis-kōn'-sīn.
Wit'-tēn-burg.
Wōl'-las-ton.
Wol-ver-hamp'-ton.
Wool'-itch.
Woos'-ter.
Rēx'-ām.
War'-tem-burg.
Wi.

Hā-rēs'.
Shīn-goo'.
Hoo'-kar.

Yah-blo-noī'.
Yah-mas'-kah.
Yah-nah-onē'.
Yang-tse-ke-ang'.
Yah-poo'-rah.
Yar-kand'.
Yar'-rah-yar'-rah.
Yah-vah-rēē'.
Yed'-do.
Yēm'-en.
Yēa-e-sā'-e.
Yēs'-so.
Yo-roo'-bah.
Yo-sēm'-e-te.
Yawl (Yō'-awl).
Yoo-kah-tan'.
Yū'-kon.

Zāc-a-tō'-kas (-tā').
Zah-ēēr'.
Zām-beeze' (-bā'-zā).
Zān-gwe-bar' (-gā-).
Zān'-te.
Zān-ze-bar'.
Zēē'-land.
Zoo'-rik.
Zī'-der-zee.